Created by Dentists for Dentists

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Composite filling with COMCORD reinforcement on tooth 46

QUICK AND EFFECTIVE SOLUTIONS TO SERIOUS PROBLEMS

ETCHGEL • MASTERBOND • FLOW-ART • CREATE

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- The photo shows the initial condition.

- Endodontic treatment is a method that allows the patient to preserve their tooth despite the occurrence of inflammation of the periapical tissues. However, the fact is that teeth after endodontic treatment are less resistant to chewing forces and more susceptible to cracks. Deep caries, the effects of which are inflammation of the periapical tissues causes that there is too little tissue in the tooth crown.
- In the past, such a tooth was only eligible for a prosthetic crown on post-and-core posts, today we can offer patients a less invasive and faster solution to complement their smile.
- A patient referred by an endodontist for the reconstruction of a root canal-treated tooth 46. The patient wanted the least invasive method of restoring the missing part of the tooth. In this case, a composite reconstruction with COMCORD reinforcement was performed.

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- Before starting the procedure, we secure the work area with lignin rolls, then we put on a form, which should be fixed with wedges. We etch ETCHGEL, and then we rinse the tooth abundantly. This is a necessary step for effective adhesion of composite materials, thanks to which the tooth will be durable for years.

- We apply the MASTERBOND to the dried tooth, thanks to which the tooth tissues will connect with the composite. After thorough rubbing and gentle drying to evaporate the solvent, we irradiate the place with a polymerization lamp.

STAGE 3 - MARKING CANAL ORFICES

- It is a good habit to protect the orifices of the prepared canals in a slightly different color than the target restoration.
- The purpose of this stage is to mark the places where the root canals are located, so that in the event of the need to perform repeated endodontic treatment they can be found without difficulty and excessive processing of the patient's tissues.
- The liquid composite FLOW-ART will work perfectly for this, its precise tip and rich formula, thanks to which the material will flow into the recesses without leaving air bubbles. These features will ensure tight protection of the canal orifices.

STEP 4 - RECONSTRUCTION OF SIDE WALLS

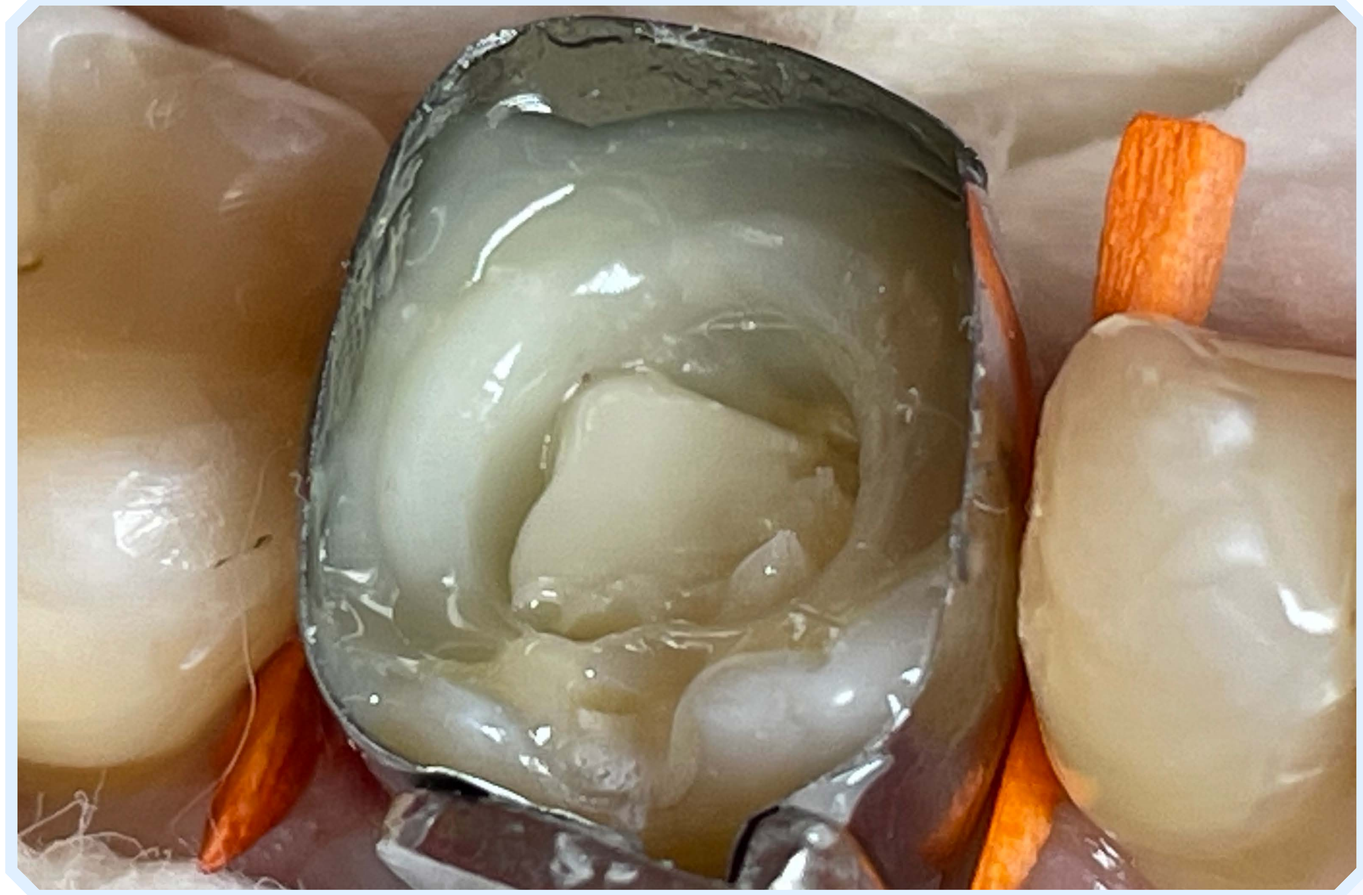
- We use composite to reconstruct the side walls first, so that the defect is restored to Class I. The order is important in distributing the forces on the filling and in order to avoid leaving empty spaces between the material batches.

STEP 5 - REINFORCEMENT WITH COMCORD

- We place the measured COMCORD section so that it adheres precisely to the inner sides of the tooth's side walls, creating the outline of the reconstruction. The use of COMCORD provides the tooth with strength that significantly exceeds the chewing forces.

- When restoring a tooth with composite, a key challenge is to minimize polymerization shrinkage, which generates internal stresses leading to micro-gaps, marginal leakage, and weakening of the restoration.
- To prevent this, a layering technique with small composite portions is used to control shrinkage and ensure the durability of the restoration.

- After applying FLOW-ART, which has the advantage of excellent adhesion to the walls of the cavity and the ability to fill small gaps and spaces that are difficult to reach with denser materials, we move on to strengthening the interior of the restoration. For this purpose, we use the CREATE composite.



- We use a composite with higher mechanical parameters to rebuild the main layers, especially in places of high load, such as the occlusal surfaces of molars. They are directly involved in the chewing process, transferring significant forces during biting. Therefore, in this case we use CREATE, which is characterized by high resistance to abrasion, cracking and compression.

- Reconstruction of cusps in accordance with the natural anatomy of the tooth is crucial for proper chewing function and bite stability. CREATE composite, thanks to its ease of modeling, allows for precise reproduction of the shape of cusps.
- Additionally, this material is characterized by aesthetic durability and color stability, which ensures long-term functionality and a natural appearance of the reconstruction.

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- We assess the height of the filling using articulating paper, make precise corrections, smooth and polish the filling if necessary. Finally, we perform a final assessment of the occlusion to ensure that the contact with the opposing teeth is correct.

BENEFITS OF USING COMCORD

- **Durable and resistant fillings**
- **Satisfaction of the patient's needs** - gratitude and satisfaction
- **Easy to make corrections** - good aesthetics and functionality of the tooth for many years
- **Saving time during the procedure** - your profit
- **Lower risk of complications**
- **Possibility to cure patients who we have lost for various reasons so far**

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