SDI | STELA

SELF CURE COMPOSITE

Direct restoration with Stela composite

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OVERVIEW

A 33-year-old male patient presented to the School of Dentistry, Uberlândia, Brazil, experiencing cold sensitivity and food impaction associated with a cavitated caries lesion on tooth 46.

Clinical and radiographic examination revealed a defective restoration with secondary caries while pulp vitality was maintained. Given these findings, the existing restoration and caries affected tissue were removed before the tooth was restored using **Stela Automix**, a self-curing bulk-fill composite resin.

Stela was chosen for its simplified restorative protocol, allowing efficient, unlimited single-increment placement while ensuring complete polymerisation throughout the restoration. Following cavity preparation, **Stela Primer** was applied to ensure reliable bonding before placement of **Stela Automix**. The material's flowable consistency enabled excellent adaptation to the cavity walls, reducing the risk of void formation.

Stela's low polymerisation shrinkage and high degree of conversion helped minimise the potential for postoperative sensitivity, while the chameleon effect provided seamless blending with the surrounding tooth structure. The final restoration achieved a functional and aesthetic result, restoring tooth integrity and contributing to improved patient satisfaction.

1. Initial presentation

Occlusal view of tooth 46 showing an unsatisfactory restoration. Buccal view of the defective restoration. Lingual view demonstrating an active cavitated caries lesion associated with cold sensitivity and patient discomfort.

2. Isolation and cavity access

The operative field was isolated using a B4 clamp, with PTFE (Teflon) tape applied to improve access to the prepared cavity. The rubber dam was retracted on the lingual aspect to facilitate access to the cavity. Buccal retraction of the rubber dam provided access to the subgingival cavity margin.

3. Stela Primer application

Stela Primer was applied to the prepared cavity for 5 seconds using a **Points** micro applicator.

4. Air drying

Gentle air drying was performed to evaporate the solvent and prepare the surface for restoration.

5. Placement of Stela Automix

Stela Automix was dispensed from the self-mixing syringe, with the initial material discarded before placement. Using the metal dispensing tip, the material was injected into the base of the cavity and into the areas of greatest retention. The tip was gradually withdrawn after a slow, continuous injection to minimise the risk of void formation.

6. Setting and finishing

The restoration was allowed to self-cure for 4 minutes before a water-soluble glycerine gel was applied to reduce the oxygen inhibited layer. The restoration was completely covered with the gel during the final curing phase. Occlusal anatomy was refined using a fine-grit diamond bur prior to finishing and polishing.

7. Final result

The completed restoration restored the form, function, and aesthetics of tooth 46. Following finishing and polishing, the restoration demonstrated excellent anatomical contour, seamless integration with the surrounding tooth structure, and a well received aesthetic outcome for the patient.

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