

Following a simpler path from prep to crown



A case study by Dr. Carlos Eduardo Sabrosa, DDS, MSD, DScD featuring 3M™ RelyX™ U200 Self-Adhesive Resin Cement

The described patient case shows that it is possible to significantly reduce the number of working steps in an indirect restorative procedure. In this way, potential sources of error are eliminated and chair-time is decreased. Key to success is the use of innovative, high-quality materials that offer ease of use and lead to increased efficiency in the dental office. These include the below-mentioned monophasic impression material, the bulk fill composite, the temporization material that does not require polishing and the self-adhesive resin cement all offered by a single manufacturer.



Fig. 1: Initial situation. The failed composite restoration covering a large part of the left mandibular first molar's occlusal surface needs to be replaced.



Fig. 2: Due to the size of the restoration, the amount of remaining tooth structure might not be sufficient to ensure the required stability for a direct composite restoration.

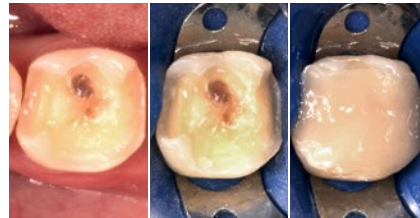


Fig. 3: Upon removal of the old filling, it becomes clear that a crown is needed to ensure the required stability. The tooth was built up with a bulk fill composite, which may be placed in conjunction with 3M™ Scotchbond™ Universal Adhesive and in increments of up to 5 mm.



Fig. 4: Following tooth preparation, a temporary crown is produced chairside with 3M™ Protemp™ 4 Temporization Material. This material exhibits high strength and a natural gloss without polishing.



Fig. 5: One week after the preparation procedure, healthy soft tissue conditions are obtained. They lay the foundation for a high-quality precision impression.



Fig. 6: In order to allow for a detailed capture of the preparation margin, the gingival tissues are retracted using the double-cord technique. Alternatively, a single cord may be applied in combination with the 3M™ Astringer Retraction Paste.

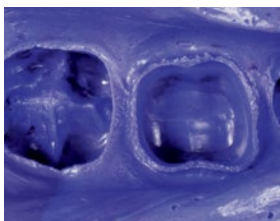


Fig. 7: Monophasic impression taken with 3M™ Impregum™ Penta™ Soft Medium Body Polyether Impression Material. A very detailed representation of the preparation margin is obtained with this simple technique.



Fig. 8: Situation at intraoral try-in of the crown. It is made of a 3M™ Lava™ Frame Zirconia coping and an IPS e.max® Ceram (Ivoclar Vivadent) porcelain layer. Ideal intraoral conditions (smooth margins, healthy tissues) are visible.



Fig. 9: Sandblasting of the crown's intaglio surface to create a microretentive surface structure that is beneficial for cementation. This procedure is recommended for oxide ceramic materials.



Fig. 10: Application of 3M™ RelyX™ U200 Self-Adhesive Resin Cement into the crown. This proven product offers a simplified procedure since it eliminates the need for separate etching, priming and bonding.



Fig. 11: Situation after crown placement, removal of the excess cement and thorough cleaning. The crown blends in nicely with the surrounding tooth structure.



Fig. 12: At the check-up several days after crown placement, a great overall picture is obtained. The patient is happy with the final restoration in terms of esthetics and function.

Before using the products described, please refer to the instructions for use provided with the product packages.

The featured 3M product may be known with an alternative name in different regions.

3M Oral Care · 2510 Conway Avenue · St. Paul, MN 55144-1000 · USA · 1-800-634-2249 · 3M, Impregum, Lava, Penta, Protemp, RelyX and Scotchbond are trademarks of 3M or 3M Deutschland GmbH. Used under license in Canada. All other trademarks are owned by other companies. Please recycle. Printed in U.S.A. © 3M 2017. All rights reserved. Dr. Sabrosa has received an honorarium from 3M Oral Care. 70-2013-7007-2