Establishing Bulk Fill Composite in Your Direct Restorative Procedure

By Dr Jeff Blank, USA

The Advancement of Bulk Fills

There has long been a quest for a “white amalgam” in dentistry. Many dentists like to use amalgam because it’s easy to place and can last extremely long, but patients don’t like it because it doesn’t offer the esthetics of a composite. In the early 90’s, bulk fill composites began entering the market, but in my opinion, the properties of these materials were not up to par.

Today’s bulk fill materials have evolved to provide clinicians a fast and easy option for deep cavities and take away the tedious work required for incremental layering. With these advancements, the likelihood of voids can be reduced, and the amount of shrinkage can be reduced, which makes bulk fill composites very appealing to me.

My go-to bulk fill is Filtek™ Bulk Fill Posterior Restorative, and I can honestly say it’s a game changer in my practice. This material works exactly as it says it should. I can place up to 5mm increments and feel confident in a full cure. Research done by Oregon Health and Science University has shown that Filtek™ has excellent polymerization capabilities and validates an optimized curing protocol.

The Introduction of Workflows

A large part of how I choose products is through research, but it’s also based on how well they fit into a specific workflow. I look for products that work together and provide synergies throughout the workflow.

Recently, I’ve been using a set of products from 3M for my direct restorations that provide improved efficacy.

My go-to adhesive is Single Bond Universal Adhesive, which truly is universal and can be used in all three etch modes. The adhesive’s properties provide a strong bond and give me virtually no post-op sensitivity. I use Filtek Bulk Fill Poster, for my deep restorations, as I can place one increment up to 5mm. I don’t need to use an additional capping layer, as the composite has excellent wear resistance.

I recently began using the Elipair™ DeepCure 5 LED Curing Light and have achieved a reliable light curing procedure. For finishing and polishing a restoration, my favorite product is the Sof-Lex™ Spiral Finishing and Polishing Wheels. This two-step system features a unique, flexible shape that adapts to irregular, convex and concave tooth surfaces, making finishing and polishing easier.

With these products, I am able to improve productivity, while saving valuable chair time. I can perform direct restorations with speed and simplicity.

Case Study

The patient was in her mid-twenties and had deep distal-lingual caries on teeth #11 and #14. Due to limited financial resources, a crown was not an option, so a direct procedure was chosen. Given the results I had been experiencing with bulk fills, I thought this would be a good option in this situation. These photos catalog the procedure completed on tooth #11, but the exact same treatment was done on #14 immediately following.

Step 1

Initial access was made on tooth #13 (Fig. 2). Upon initial access, the extent of the decay/become clear, and additional decay was removed to create the final preparation of 5mm. The preparation was then selectively etched (Fig. 2) (Sof-Lex™ Universal Etchant), and after 15 seconds the etchant gel was rinsed off and dry.

Step 2

Single Bond Universal Adhesive was applied to the preparation and scrubbed for 20 seconds (Fig. 3). The adhesive was then air dried for 5 seconds and light cured 10 seconds.

Step 3

Filtek Bulk Fill Posterior was then placed in the preparation up to 5mm (Fig. 4). Tip of the composite was placed in the interproximal box and slowly raised while material was dispensed (Fig. 5). The composite was packed with an instrument to adapt to the preparation wall and floor (Fig. 6). The composite was then light cured.

Step 4

Initial contouring was completed with a diamond bur to blend the composite with the surrounding dentition (Fig. 7). Sof-Lex Spiral Finishing and Polishing wheels were then used. The burs inserted in light (Fig. 8) and the white wheel provided a final polish (Fig. 9). The final restoration was completed (Fig. 10).

By 3M

On 21-25 March 3M Oral Care participated in one of the leading trade fairs of the dental industry - IDS 2017, Cologne. During the five days of the show the booth was visited by the large number of doctors of various specializations coming from various countries from all across the globe.

The main theme of the booth was dedicated to Science Applied to Life concept and dentists could get acquainted with the new products and technologies in various dedicated areas. In the Direct Procedure section esthetic and efficient procedures with Filtek™ nano-composite restorative materials were presented and using the patient MARC simulator the technique of polymerization was demonstrated. In the Indirect Procedure section the main parts of the Success Simplified procedure were demonstrated to show the benefits of precision of materials, various range of cements and temperature materials. In the Orthodontic and Preventive section doctors could learn more about the Esthetic solutions with Clarify™ Advanced ceramic brackets complemented with AFC Flash Hybrid adhesive coated appliance system, as well as visit hands-on sessions on Cliniger™ Preventive procedure.

3M Booth at IDS Cologne 2017


3M Oral Care at 37th International Dental Show watching the computer-generated simulation of Direct and Indirect Procedures in a three-dimensional image.

And in the dedicated corner doctors could learn more about the Gray Market issue, why they should pay attention to this topic, which problems can be caused by using gray market products, how to ensure buying products from 3M authorized distribution channels to prevent Gray Market and Counterfeit Product Risks.

And after the busy days visitors could relax in a comfortable lounge meeting their colleagues from various countries and having discussions on the new products and technologies.

To learn more about 3M Oral Care please visit: www.3M.com and www.3MGlobal.com.