Diastema closure using the 3M Esthetic Restorative Solution: Time-tested materials with a modern spin on polishing

By Dr Marcos Vargas, USA

Introduction

Given my primary research interest in the area of dental materials—bonding, composite resins and aesthetic dentistry—I am always examining products with an eye toward simple techniques and patient-pleasing esthetic results. Recently, I was greatly impressed to discover a high-gloss finishing and polishing system that is effective for both anterior and posterior, direct and indirect restorations. The SofLex™ Diamond Polishing System from 3M introduces a two-step approach that achieves a paste-like gloss with the convenience of a rubberized system. The flexible shape adapts to all tooth surfaces, producing a lifetime, high-gloss finish for the dental restoration. Used with Filtek Z350XT Universal Restorative, the polishing system delivered excellent results while maintaining the integrity and anatomy of the restoration. When a young patient presented with a small anterior diastema, I used Filtek Z350XT restorative to close the diastema, then completed the case using the SofLex™ Diamond Polishing system, delivering beautiful aesthetic results with a high gloss shine that greatly impressed the patient.

As a complete system, the Esthetic Restorative Solution from 3M combines the time-tested Filtek Z350XT restorative with the new SofLex™ Diamond Polishing system to impart a very natural-looking gloss in a technique that is kinder to gingival tissues when compared with conventional discs. It brings together the diamond paste-like polish in the convenience of a rubberized system, which I can appreciate in my practice.

Case Presentation

A young female patient presented, after orthodontic treatment, with a small anterior diastema, mental to the right lateral incisor (Fig. 1). The patient’s main esthetic concern was to eliminate the space and increase the size of the lateral incisor. Additionally, to ensure optimal stability of the orthodontic treatment, proximal contact among all anterior teeth is desirable. Isolation with a rubber dam pushed the gingiva apically to provide accessibility to the cervical area and allowed me to create proper anatomical contour and emergence profile (Fig. 2). The patient presented with a small anterior diastema. (Fig 1).

By 3M

On 10-12 January 2017, 3M Company traditionally participated in one of the largest annual events devoted to oral care in Saudi Arabia—The 28th Saudi Dental Society Exhibition, which took place in Riyadh and attracted professionals of various specializations from all across the region. This year 3M Oral Care was present offering innovative procedure solutions and techniques for dentists and orthodontists that help oral care professionals achieve greater clinical, professional and personal success!

Esthetic Restorative Procedure solution with Filtek™ Z350XT Universal Restorative, Single Bond Universal adhesive, Elipar DeepCare curing lights and newly introduced SofLex™ Diamond Polishing System is allowing to make it simple to create natural-looking restorations with a gorgeous paste-like gloss. Thanks to 3M’s unique, patented nanotechnology, Filtek™ Z350XT Universal Restorative is easy to polish and also offers unsurpassed polish retention. The same nanotechnology that makes Filtek™ Z350XT Universal Restorative beautiful makes it strong, too, giving you the option of using it in any place and for any Class.

And with the Efficient Restorative Procedure solution 3M helps to simplify posterior restorations, one of the most common and complicated procedures. By using four 3M innovative technologies together (Filtek™ Bulk Fill Posterior restorative, Single Bond Universal adhesive, Elipar DeepCare curing light and SofLex™ Diamond Polishing System) dentists can now move through a posterior restoration with speed and simplicity. Essential to this simplified procedure is Filtek™ Bulk Fill Posterior Restorative, designed to improve productivity by enabling fast and easy posterior restorations placing it in one convenient increment up to 3mm! Prosthodontics could learn more about the Indirect Procedure solution which is allowing to simplify and improve every step of the crown and bridge clinical procedure, in conjunction with the SofLex™ Diamond Polishing System are providing various solutions and allowing to grow orthodontic practice with esthetics and efficiency.

Dr. Marcos Vargas

Vargas attended City- etano Heredia University School of Dentistry in Lima, Peru and graduated in 1985. He spent two years, 1990 to 1992, in the Eastman Dental Center in Rochester, New York. Dr. Vargas received his Certificate and Master Degree in Operative Dentistry in 1994 at the University of Iowa where he is currently a Professor in the Department of Family Dentistry. His primary research interests are in the area of dental materials including glassionomers, dentin bonding, composite resins and esthetic restorations. Dr. Vargas is also recognized for his expertise of Direct Restorative Treatment Procedures and conducts numerous lectures and hands-on seminars in the US and internationally.

J.M Oral Care at Saudi Dental Society Exhibition

Fig. 1. The patient presented with a small anterior diastema.

Step 1

Fig. 2. Isolation with a rubber dam pushed the gingival apically to provide accessibility to the cervical area and allowed me to create proper anatomical contour and emergence profile.

Step 2

Fig. 3. A mylar strip was used to protect the adjacent tooth from etching. The mesial proximal, facial and lingual areas were etched (preparation of a selective etch enamel technique with Single Bond Universal Adhesive from 3M to increase the bond strength.

Step 3

Fig. 4. To prevent contact of the adhesive with the adjacent tooth, another mylar strip was placed and adhesive was applied. The manufacturer’s instructions for use states that you should wait for 20 seconds, use a gentle stream of air for about 5 seconds, and light cure 10 seconds. My preference is to wait for 30 seconds, dry for 30 seconds and light cure for 10 seconds.

Step 4

Fig. 5. Filtek Z350XT Universal Restorative shade XVIII was placed in two increments allowing to make it simple to create a paste-like gloss with a high gloss shine that greatly impressed the patient.

Step 5

Fig. 6. This increment was then spread and feathered towards the middle of the tooth to improve blending. After this, I started contouring and polishing. The second increment was placed to fill the palatal aspect of the diastema with the help of a mylar strip. This completely closed the diastema.

Step 6

Fig. 7. To begin the contouring and polishing process, the proper length was established with a SofLex™ XT Contouring Disc. Second, an incisal-facial line angle was formed. Third, the mesio-facial line angle, as well as the incisal, facial and palatal embrasures were defined. Once contoured, the surface characterization of the adjacent teeth was copied onto the restoration using a fine diamond. In my experience, a speed of about 2,000 RPM using the diamond is ideal to create micromotion.

Step 7

Fig. 8. Next, I utilized the SofLex™ Diamond Polishing system, which consisted of two steps. First, a beige polishing spiral smoothed and removed scratches in the restoration to prepare the surface for high-gloss polishing.

Fig. 9. Second, a pink diamond polishing spiral then imparted a smooth, high-gloss polish Fig 9. These spirals easily adapted to all surfaces. Finally, the proximal surface was polished with finishing strips.

Fig. 10. Upon finishing the restoration, the patient was very satisfied by the ideal color, surface smoothness and life-like luster.