A step-by-step guide to a direct diastema closure

Case Report

By Dr. Ayad Mouayad Al-Obaidi, Iraq

A 28-year-old female patient had the primary complaint of spacing in the upper front tooth region. The patient’s medical history did not reveal any systemic diseases and an intraoral examination revealed presence of midline spacing between maxillary central incisors (~2mm) (Figs. 1 and 2).

For a more conservative, economical, aesthetic, and quicker option, a direct diastema closure was considered.

All maxillary incisors were isolated with a rubber dam (Fig. 3) to ensure complete control of moisture to keep the area clean and dry whilst also suppressing the papilla to reduce the presence of midline spacing between the teeth.

The enamel surface was maximally prepared with a diamond Burr to increase the surface area for bonding and to remove aprismatic enamel (Fig. 4).

37% phosphoric acid was applied for 15 seconds on the mesial surface to be rinsed, then dried for 20 seconds (Fig. 5), and dried with air gently (Fig. 6). Then a universal adhesive system was used (Prime&Bond universal™), using a macro brush with a light scrubbing motion for 15 seconds (Fig. 7).

This was then gently air dried for approximately 5 seconds. Blow to margin, or to thin if necessary, using a light application of air and then light cured for 20 seconds.

The key for papilla regeneration is to provide aggressive cervical curvature that starts subgingivally and this can be done with a mylar strip placed subgingivally with a high viscosity flowable composite or bulk flow composite injected to the contact point area as reference (emergence profile) (Fig. 8).

The key to success in diastema cases is to finish the first tooth completely before starting the second tooth (Fig. 9). Then some corrections can be made to the size of the first tooth so the final size of the centrals will be the same at the end of treatment (Fig. 10). In this case the proximal wall was completed with a single shade universal composite (ceram.x® SphereTEC™ one universal) and then began the emergence profile to complete the proximal wall of the second tooth (Fig. 11).

The teeth were then finished with polishing discs and rubber points. The rubber dam was then removed and as you can see there is a small black triangle in the cervical area (Fig. 12).

The recall visits in diastema cases are very important to see patient satisfaction, to check the periodontal health and to do some polishing and as you can see there is a small black triangle in the cervical area (Fig. 12).

The interdental papilla filled the space of the black triangle completely (Figs. 15 and 16).

Please contact your local Dentsply Sirona representative for more information on all the products featured in this direct diastema closure clinical case.

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Dr. Ayad Mouayad Al-Obaidi is an Assistant Lecturer in Conservative Dentistry, at Baghdad University, Iraq. He graduated in 2004 from the University of Baghdad from where he then received his MSc in 2011. Between 2004 and 2015 he attended a number of refresher courses and developed skills in aesthetic adhesive restorations using direct and indirect techniques in the anterior and posterior. He lectures and provides hands-on courses in the field of porcelain and composite restorations. He maintains a private practice with a special interest in adhesive and restorative dentistry at Baghdad Smile Centre in Baghdad.