

HOW TO

USE THIS EASY TECHNIQUE FOR CLOSING SMALL BLACK TRIANGLES

Creating restorations with Aura Easy composite can help close small black triangles with ease. [by Susan McMahon, DMD, AAACD]



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BLACK TRIANGLES, ALSO KNOWN as open gingival embrasures, are spaces or gaps of missing gum at the cervical embrasure above the contact point and are a common dental issue seen in approximately 30% of adults.

The main determinant of the interproximal papilla height is the underlying bone crest (ie, osseous peaks). Research shows that the distance from the base of the contact area to the crest of bone correlates with the presence or absence of the interproximal papilla. When the distance is less than 5 mm, the papilla fills the interproximal space nearly 100% of the time, but when the distance is 7 mm or greater, the interproximal space is completely filled in only approximately 25% of the time.¹

Appearance and self-esteem have long been intertwined, so as our social media and selfie use continues to grow, more people are seeking out cosmetic dentistry to enhance their appearance. Often, they're seeking care for relatively small dental issues that are of big concern to them. Patients' perceptions of interdental black triangles were rated as the third most disliked esthetic problem, below caries and crown margins.² Black triangles are very prevalent, and approximately 40% of adult orthodontic cases may result in them.³

Black triangles may be caused by several conditions,⁵ including:

- ▶ decreased interproximal bone height from periodontal disease, attachment loss, periodontal sur-

gery, or trauma;

- ▶ excessive embrasure space and deficient papilla form affected by root angulation, interradicular distance, crown form, and distance between alveolar bone and interproximal contact;
- ▶ patients' biologic width and inherent or thinning gingival biotype; and
- ▶ other factors such as age, patient habits, and iatrogenic issues.

Depending on the size, position in the esthetic zone, and cause of the black triangle, several treatment options are available, including surgical, orthodontic, indirect, and direct.

For small black triangles (Figure 1), direct restoration is the best and most conservative approach. Many clinicians find direct restoration in this area to be challenging, often resulting in restorations with ledges and voids that collect biofilm and stain. However, newer techniques including injection molding improve the results.

The following case demonstrates an easy technique that employs traditional sectional matrix bands, Aura Easy composite, and Aura Easyflow, both from SDI Limited. Aura Easy is a universal nanohybrid composite that combines a low-shrinkage resin system and a unique morphology of ultra-high density glass filler. It can withstand high compressive forces and still deliver amazing handling and polishing properties. Therefore, it can be utilized in anterior and posterior restorations without compromising strength or esthetics. AuraEasy comes in 4 shades that cover the spectrum of the Vita shade guide and blends beautifully with natural enamel.

The patient shown in Figure 1 did not like the black triangle between his central incisors. He complained that, "it always looks like I have something stuck in my teeth." Prior to closure of the black triangle, the patient is whitened with Pola Rapid in-office whitening (Figure 2).

It is difficult to attain proper contour interproximally with traditional mylar strips or matrix bands. Using a small, sectional matrix band placed vertically gives the perfect contour and can be adapted for an undetectable margin with no overhang.

First, isolate the left central incisor, and etch the enamel (37% phosphoric acid). After rinsing and light drying, apply Zipbond Adhesive (SDI Limited), air thin, and cure (Figure 3). The matrix band is placed interproximally. It is apparent the contour of the band will allow for a well-adapted closure of the black triangle (Figure 4).

Apply Aura Easy shade AE1 and contour to the band. Use Aura Easyflow to fill on the lingual as necessary (Figure 5). Figure 6 shows the final results after finishing and polishing. ●

REFERENCES

1. Tarnow DP, Magner AW, Fletcher P. The effect of the distance from the contact point to the crest of bone on the presence or absence of the interproximal dental papilla. *J Periodontol.* 1992; 63(12):995-996. doi:10.1902/jop.1992.63.12.995
2. Cunliffe J, Pretty I. Patients' ranking of interdental "black triangles" against other common aesthetic problems. *Eur J Prosthodont Restor Dent.* 2009;17(4):177-181.
3. Kurth JR, Kokich VG. Open gingival embrasures after orthodontic treatment in adults: prevalence and etiology. *Am J Orthod Dentofacial Orthop.* 2001;120(2):116-123. doi:10.1067/mod.2001.114831
4. Kim J, Clark DJ. Full mouth black triangle treatment protocol. *Dent Today.* 2017; 8
5. Tanaka OM, Furquim BD, Pascotto RC, Ribeiro GL, Bósio JA, Maruo H. The dilemma of the open gingival embrasure between maxillary central incisors. *J Contemp Dent Pract.* 2008;9(6):92-98.

ABOUT THE AUTHOR

Dr McMahon enjoys one of the largest cosmetic dental practices in Western Pennsylvania. She is accredited by the American Academy of Cosmetic Dentistry, and a Fellow of the American Society for Dental Aesthetics. She has devoted her career to advanced technologies in cosmetic and minimally invasive dentistry. She is the Director of New Product Evaluation for Catapult Education and has been voted as a Top Pittsburgh Dentist for over 15 years.

AT A GLANCE

Figure 1. Small black triangle to be closed

Figure 2. Whitening performed prior to closure

Figure 3. Closure process underway

Figure 4. Band contour allows for well-adapted closure

Figure 5. Apply Aura Easy, followed by Aura Easyflow on the lingual

Figure 6. Goodbye black triangle



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