Growing Enamel — Revisited

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One of the dental field’s biggest esthetic priorities, after restoring and preserving health, is enhancing the smile. In 1995, Dentistry Today published an article I wrote about a technique I developed, which I called “Growing Enamel.” The phrase is erroneous, of course, because, after enamel is formed, it does not grow. But this technique creates an image of it doing so. In the years since the article was published, the concept has been copied in articles and books on esthetic treatment techniques without reference or recognition. However, imitation or replication is a great form of flattery.

When I wrote the article “Growing Enamel,” it was during the early days of a groundswell of esthetic awareness of the mouth, which resulted in the adoption of various oral esthetic techniques and treatments. As a periodontist, I concentrate on the background of a smile to enhance the desired foreground — the appearance of a glowing smile.

Even, symmetrical and appealing

The maxillary anterior teeth are the most visual and the crux of the smile. First impressions are formed here. What we want to see is bright, white, symmetrical teeth, but most teeth fall somewhat short of this desired illusion. When viewed closely, the natural incisal edges are obviously not even. The lateral incisors’ edges are usually slightly shorter than the central incisors’ edges. The cuspids’ shapes are not entirely level to the incisors and typically of a different shape altogether. The technique “Growing Enamel” helps create the image of an even, symmetrical and appealing smile.

There are many causes of an imperfect smile. Perhaps there was an accident that resulted in the breaking of an incisal tooth. Perhaps an anterior tooth changed color. Perhaps incorrect shading was used with an anterior restoration. Virtually anything that changes the desired illusion of a clean, bright, symmetrical flow, might be the culprit. We need to remember that the actual average natural size of the central incisor is 11.5 mm gingival-to-incisal height with an average 9 mm mesial-distal distance.

Growing Enamel

The “Growing Enamel” technique is the manipulation of the periodontia when the tissue is such that it distorts the visual appearance of the visible teeth. There must be no loss of supporting alveolar bone, and there must be a healthy zone of keratinized gingiva.

Of vital importance is the preservation of the inter-proximal tissue. The keratinized interproximal tissue may be manipulated vertically, but the interproximal tissue must be preserved. There is no new blood supply interproximally, so the area, if removed, will show an undesirable dark interproximal space referred to as a “black diamond.” The resulting final image should end with a healthy zone of attached keratinized, pinkish-white gingiva forming a background to the desired size and shape of the anterior teeth. Using a form of the apically repositioned flap, with healthy tissue as the esthetic goal, the “Growing Enamel” technique serves as a vital approach to achieving a maintainable smile desired by both the patient and the practitioner.

What it’s not

The technique “Growing Enamel” should be part of the esthetic surgeon’s choices of techniques. Techniques such as “crown lengthening” imply the exposure of more tooth structure by removing surrounding tissue and bone. “Growing Enamel” relates to the exposure of only the anatomical crown, which too often is covered by hyperplastic or excessive gingiva, preventing natural esthetic properties from being emphasized.

Terms such as “gingivectomy” or popular words such as “sculpting” are just references to removing hyperplastic or excessive gingiva, preventing natural esthetic properties from being emphasized.

A definitive surgical technique such as “Growing Enamel” avoids the recession possibilities and adds predictability to the desired symmetrical background.

Case study

In this example case, a 19-year-old woman wanted a beautiful smile she could be proud of (Fig. 1). Initially, she presented with bleeding gingiva, but after a series of non-surgical treatments, which included oral hygiene instruction, the bleeding ceased. Her #7 appeared to not look clean, with a worn, stained restoration labially. It also appeared short in height. The centrals had a square appearance, not the length of a normal appearing incisor, but shorter and not streamlined. The cervical line was irregular, the cuspids being higher and the centrals irregular and lower.

Using the “Growing

* See ENAMEL, page A3

Fig. 1: Before, patient wanted a nicer smile. Photo/Provided by Dr. David L. Hoexter

Fig. 2: Periodontal tissue repositioned sutured with sling suture technique.

Fig. 3: Healed periodontia. Enamel exposure full and natural. Tooth #7 restored.

Fig. 4: Patient loves and is motivated to care for her new, bright, symmetrical smile.