

# Dentistry Meets Artistry - Facial Aesthetics

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## **Abstract:**

*Cosmetic facial treatments are a rapidly developing area of clinical practice with increasing numbers of GDPs providing facial aesthetic treatments. As their popularity grows, more patients are now undertaking such procedures. Aesthetic dentistry has an absolute boom over the last 30 years when it comes to such innovative techniques as teeth whitening and minimally invasive veneers. Treatment planning according to facial structure and dental configuration helps to improve aesthetics' function and its harmony. The main concept of aesthetics in dentistry is to make any damaged dentition look naturally beautiful. This article reviews that it is necessary for dentists to have professional knowledge about facial aesthetics.*

**Key words:** Facial aesthetics, cosmetic dentistry, ageing,

## **INTRODUCTION**

With the rapid advances in dental materials and technology, the demands and expectations for aesthetic dentistry have become increasingly high. As providers of dental care in various specialties, dentists are obligated to present patients with total treatment approaches to maximize health and aesthetics.

Facial aesthetics have an important influence on social behaviour and impactful perception in our society. Cosmetic dentistry has been the cynosure for most of the dental practices. Cosmetic facial treatments are a rapidly developing area of clinical practice with increasing numbers of GDPs providing facial aesthetic treatments. As their popularity grows, more patients are now undertaking such procedures.<sup>[1]</sup> People's aesthetic requirements have

increased substantially. Therefore, dentists have been seeking to provide excellent treatment results which consequently requires a well-organized transdisciplinary approach.<sup>[2]</sup>

It is of vital interest to patients to integrate and coordinate treatment and not to limit the treatment to an isolated specialty. Severe skeletal and dental malocclusions are multifactorial and include considerations of facial esthetics, function, and ideal dental occlusion. In many routine dental malocclusions, orthodontic treatment alone may be limited in obtaining ideal facial and esthetic dental occlusions. The initial correction of a Class II malocclusion to an ideal Class I occlusion does not terminate the dentist's obligation to the patient. Dentists must inform patients of their total dental needs, not just of the providers' limited specialties. Oral health providers must evaluate the face, smile, lip line, buccal corridor of the smile, black triangles, and spacing, as well as provide esthetic anterior tooth shape, correct mesial-distal space in agenesis cases for implant treatment, and establish proper gingival height contours. Often, one-sided approaches to multifaceted problems produce compromised results<sup>[3]</sup>.

The Class II Division I malocclusion must be evaluated from sagittal relationships, with consideration given to transverse and vertical relationships of the dental arches, as well as basal jaw relationships. A patient who has a Class II malocclusion with decreased anterior facial height, mandibular overclosure, and deep bite has drastically different facial characteristics than a patient who has an excessive anterior facial height and a steep mandibular plane angle. The Class II Division II patient who has excessive anterior alveolar development with unfavorable upper incisor to upper lip relation showing too much of the tooth crowns and gingival tissue requires a different treatment approach than a patient with Class II Division I malocclusion but normal anterior alveolar development and good maxillary incisor to upper lip relation. The Class II Division I malocclusion with maxillary incisor protrusion and an acute nasolabial angle should be treated differently than a Class II Division I malocclusion with proper axial inclination of the maxillary incisor teeth and a normal soft-tissue nasolabial angle<sup>[4]</sup>.

The individual's facial proportions and symmetry must be considered carefully. The important concern is the balance and proportion between the various facial structures to achieve harmony in a particular individual<sup>[5]</sup>.

Quantifying facial esthetics using anthropometrics in art, dentistry, and plastic surgery to determine the esthetics of the face has a long history. The establishment of rigid measurements and proportion values as characteristics of the ideal face is unnatural because it negates the natural variations that are always present in a general population. Quantitative analysis of various facial qualities enables the clinician to refer to the most typical signs of the attractive face. The clinician, just like the artist, must possess artistic talent and good clinical judgment to achieve an esthetic result fitted to the needs of a particular face<sup>[6,7]</sup>.

### **Chemical Peeling-**

In this treatment, a chemical solution is applied to the skin, which makes it "blister" and eventually peels off. The new skin is usually smoother and less wrinkled than the old skin. Chemical peels can improve the skin's appearance. The practitioner who does your peel will first clean your skin thoroughly. Then he or she will apply one or more chemical solutions -- such as glycolic acid, trichloroacetic acid, salicylic acid, lactic acid, or carbolic acid (phenol) - - to small areas of your skin. That creates a controlled wound, letting new skin take its place (Fig 1).



Figure 1-B) Before and A) After - Chemical peel

**2. Fractional CO<sub>2</sub> Laser:** It is a procedure which is non-invasive and non-surgical. The fractional CO<sub>2</sub> laser emits a zone of tiny microthermal beams. Thousands of beams with a diameter of a hair will penetrate deep into the layer of the skin creating numerous microscopic thermal injury zones, while sparing the surrounding tissue. Once the microscopic injury irritates the skin, collagen production will begin, allowing the skin to process for short-repair. The production of new collagen forms new skin cells to replace the older damaged skin. Thus, skin will experience more elasticity and suppleness.

**3. Fillers for Scars:** They are injected underneath the skin in the nasolabial fold, marionette lines, and oral commissures which add volume to these facial areas, plump them up, and smooth out the facial wrinkles. Hyaluronic acid is used, which adds volume to the facial structures and can create a very natural appearance. These fillers can be used for the areas of the lower face and also can be used for lip augmentation (Fig 2).

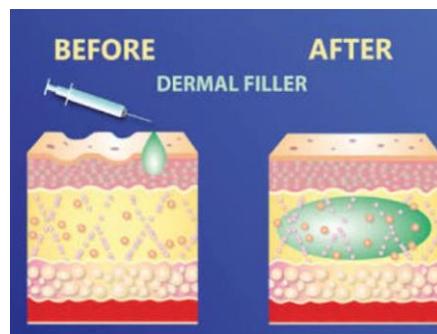


Figure 2- Rejuvenation of skin by injecting dermal fillers

**4. Micro/Meso Botox:** Botox is injected with a fine needle into specific muscles with only minor discomfort. Micro Botox is the injection of multiple microdroplets of diluted onabotulinumtoxinA into the dermis or the interface between the dermis and the superficial layer of facial muscles (Fig 3). The intention is to decrease sweat and sebaceous gland activity to improve skin texture and sheen and to target the superficial layer of muscles that find attachment to the undersurface of the dermis causing visible rhytides.<sup>[4,8]</sup>

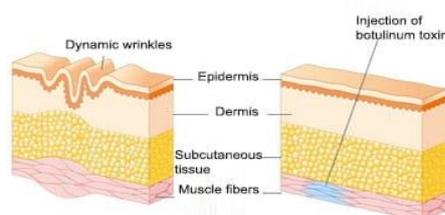


Figure 3- Mechanism of action of Botullium toxin

## CONCLUSION

Chemical peel reduces fine lines under the eyes and around the mouth, treats wrinkles caused by sun damage and aging, improve the appearance of mild scars, treat certain types of acne, reduce age spots, freckles, and dark patches (melasma) due to pregnancy or taking birth control pills. Fractional CO<sub>2</sub> Laser generally gives a better result for deeper wrinkles, acne scars, upper lip lines, and crepiness around the eyes. Dermal fillers have long been used to mitigate the effects of ageing, with the aim of temporary replacement or augmentation of lost tissue. Micro/Meso Botox reduces the size of the pores, tightens and smoothens the skin, scars diminish and reduces oil production<sup>[9]</sup>.

Based on this review article, it can be concluded that all the mentioned methods are safely efficacious in reducing fine lines and wrinkles, ageing, scars, crow's feet and pigmentations resulting in smoother and younger-looking skin. Immediately after these procedures, the skin might have burning sensation or they may appear red/swollen, depending on the sensitivity of the skin. These are the minor temporary side effects that eventually reduce within a week or two. Cosmetologist or dermatologist study the type of the skin and accordingly suggest one of the methods mentioned above.

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