

Efforts to Meet Esthetic Requirements in Anterior Fixed Partial Denture

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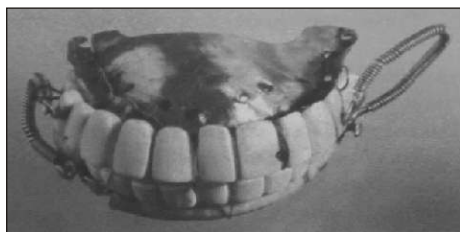
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Introduction

Dental art has long been part of the quest to enhance the esthetics. The Search for beauty can be traced to the earliest civilizations of the teeth and mouth. Both the Phoenicians (approx. 800 BC) and Etruscans (approx. 900 BC) carefully carved animal tusks to simulate the shape, form, and hue of natural teeth for use as pontics

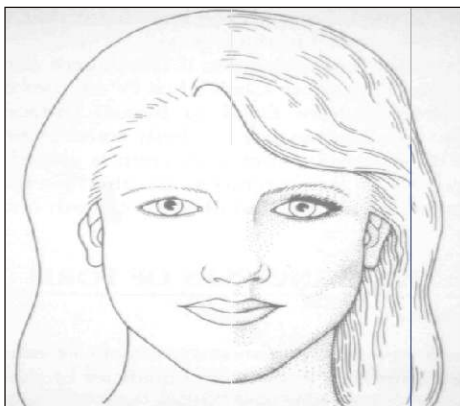


The introduction of mineral teeth in 1817 was soon followed by the manufacturer of porcelain teeth. Dentures were fabricated with a gingival component made of carved ivory or animal bone that was designed for adaptation to ivory or bone bases.



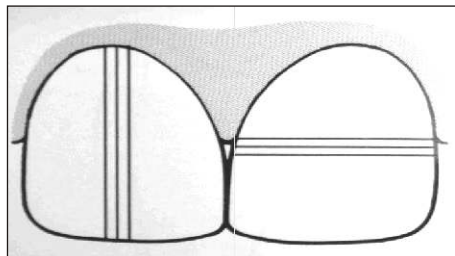
Fundamental of Esthetics

Many principles of esthetics including perception, cultural biases, masculine and feminine, the Golden proportion and artistic biases and so on.....The most important of



these is the perception that light approaches and dark-recedes; this is the principle of illumination

This bias applies equally to cloths, cosmetics, and teeth. The purposes of cosmetics is to give contour to the face. The second artistic bias of great importance in dentistry is the use of horizontal and vertical lines. A horizontal line makes an object appear wider, whereas a vertical line makes an object appear longer.



A portion of the tooth can be stained darker to create the illusion that the transitional line angle has been moved and that the portion of the tooth is receding. In reality the tooth contour remains unchanged



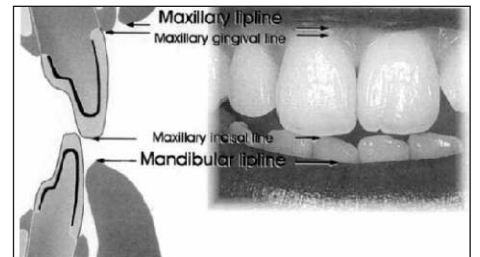
Porcelain Laminates

The combination of ceramics and composite luting materials permits optimal integration of the materials' physical, biological, and esthetic properties. Among these, adhesive properties, tissue preservation, esthetics and longevity are critical

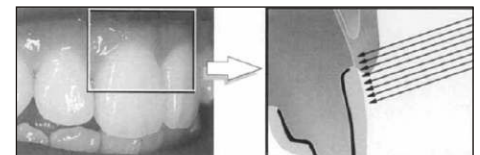


The Umbrella Effect

A careful analysis of clinically relevant optical phenomena should always include the effects produced by the lips, particularly the upper lip, because this feature will significantly influence the interaction of light with the teeth and their supporting tissues



In the presence of a high lip line, the light penetrates directly to the soft tissues. No shadows are evident in the soft tissues.



The "umbrella effect" is produced by the absence of indirect light penetration into the soft tissues (dotted lines).

The umbrella effect commonly occurs in 3 situations:

- 1) In the presence of apically overextended frameworks.
- 2) When using insufficiently translucent restorations or opaque cements; and
- 3) In the presence of cast dowel-and core restorations or endosseous, root form implants and related abutments.

Modified Pontic Designs

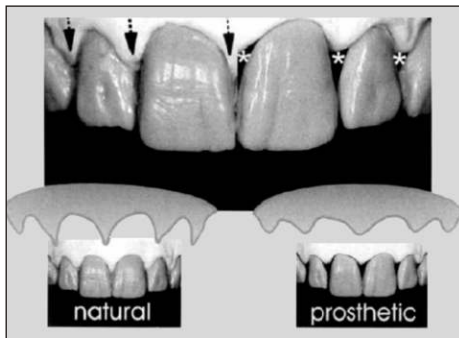
In anterior regions, only a ridge-lap Pontic with a delicate and selective pressure distributed on the facial aspect of the crest will provide the patient with optimal comfort as well as esthetically pleasing

results with minimal surgical intervention.



Interdental Design

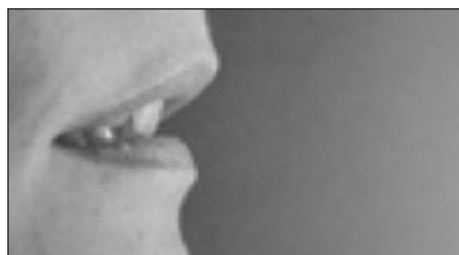
When the soft tissue architecture of a patient is compared with an intact dentition, it becomes apparent that the interdental papillae of the prosthodontics patient are flattened, leading to unsightly black interdental triangles.



Dentofacial Perspective In Anterior Dental Esthetics

The dento-facial composition encompasses both the frontal and sagittal planes in two muscular positions; the static and dynamic .

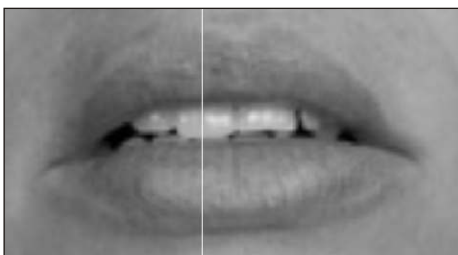
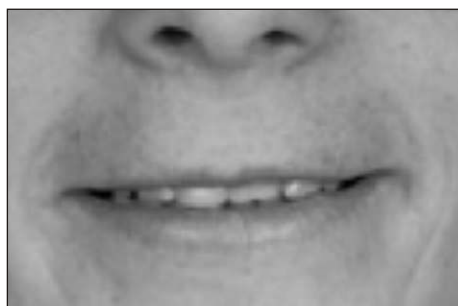
Static Position : The static position is when the lips are slightly parted and the teeth are out of occlusion with the perioral muscles relatively relaxed. This position is typically achieved following utterance of the letter 'M'. In this position, four factors influence tooth exposure: lip length, age, race and sex, also known as the acronym LARS.



Each patient should be assessed according to the LARS factor, e.g. an increased maxillary tooth exposure is indicated for young females, and the opposite for elderly males



The Dynamic Position: The second constituent of dento-facial composition is the dynamic position, typically characterized by a smile. The extent of tooth exposure during a smile depends on skeletal make-up, degree of contraction of the facial muscles, shape and size of the dental elements and shape and size of the lips, which vary from extremely thin to full and thick.



The Smile Line

The smile line is an imaginary line running from the incisal edges of the maxillary incisors and coinciding with the curvature of the lower lip. When the incisal plane is not parallel with the curvature of the lower lip then flat, eccentric or reversed smile lines are evident. This coincidence between the incisal table and the mandibular lip is often lost due to wear by abrasion, erosion or attrition, periodontitis, altered patterns of eruption or poor quality dentistry.



Ideal smile should have-

- The upper anterior teeth coincide with the curvature of the mandibular lip during a relaxed smile
- The corners of the lips are elevated to the same height on both sides (termed smile symmetry)
- Bilateral negative spaces are evident, separating the teeth from the corners of the lips and

The contact points of the anterior dental segment should also coincide with the incisal edges and with the curvature of the lower lip, thus enhancing the cohesiveness of the dentofacial composition





Discussion

Esthetics results in anterior FPD are obtained by incorporating concept of fundamental of esthetics, like perception, cultural biases, masculine and feminine and artistic bias.

Optimize concept in metal ceramics have brought and new, more esthetics

solutions through reduced metal framework and extended porcelain shoulders. Resultant restoration feature improved “esthetic widths”, permitting optimum interaction of light with anterior teeth. In the interdental zone, the concept of interdental mini-wings represents a simple answer to the problematic soft tissue architecture.

Dentofacial prospective in anterior FPD are also important esthetics factor, like the degree of anterior tooth display is determined by the lips at rest (LARS factor) and during smiling (dynamic position).

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