

Designing the Smile

Elements of the smile.

1. **Incisor visibility:** The youthful smile presents with more maxillary incisor visible at rest and during the full smile. The amount of maxillary incisor visible at rest is an important parameter for esthetic appraisal and its decrease contributes to an early perception of aging of individuals in their 40's (baby boomers). By increasing visible incisors, we cheat "Mother Nature".
2. **Lip Lines:** The degree, or lack, of curvature of a smile is one of the most important factors in determining the pleasantness of a smile. Ideally, the lip line should run upward at the corners of the mouth. Frequently, the only way to alter this is through muscle restraining techniques. The lip line is determinate of amount of gingiva that shows during smile. The lip position may help to determine the need for gingivoplastic or osseous techniques to reduce tissue display during the smile.
3. **Negative Space:** The negative space is the dark space that occurs between the teeth and the corner of the mouth during smiling and laughter. This contrast between the higher value teeth and the shadowing of the negative space give individuality and mystery to a smile. The absence of negative space usually indicates occlusal disharmony or inappropriate restorative dentistry.
4. **Symmetry:** One of the most important aspects of symmetry in the smile is the relationship of the corners of the mouth in a vertical plane. Symmetry draws the viewer to the midline. Symmetry is also important in the horizontal plane as we move away from the midline. Asymmetries in dentition or lips can be a distraction when evaluating the attractiveness of a smile. The commissure line and the pupil line should ideally be parallel.
5. **Incisal Plane:** Ideally, the incisal plane or line should be in harmony with the rest of the face. It should be parallel to the interpupillary line as well as the commissural line. The incisal line should also follow the gingival line (the apices of the tissue for each tooth). If this does not occur, aesthetic value will be compromised. The perception of the public is that the incisal edge line should be straight and parallel to the horizon.
6. **Midline:** although the right and left sides of the face differ in appearance and proportion, the midline between the two sides of the face should bisect as closely as possible. There are several landmarks that can be used. The nose, philtrum, incisive papilla, and the commissures, it is easiest and probably most accurate to try to split the difference between the commissures. The midline should also be perpendicular to the commissural line. If the commissural line is obviously not parallel to the horizon, the interpupillary line is the best option.
7. **Golden proportions:** The definition of the laws of beauty were first introduced and explained by Greek philosophers and mathematicians. Pythagoras described the relationship and harmony that exists between two separate entities in nature. The so called "Golden Proportion" basically stated that the "smaller to the larger is equal to the sum of the whole relate to the larger". Lombardi first introduced the relationship between this Golden Proportion and dentistry in the 1970's. Although the violation of the Golden Proportion can become a diagnostic tool in determining why a smile is not as aesthetic as it could be, violation can still result in very high aesthetic value. With the current census being the large central incisors are sexy and provocative, the Golden Proportion in a smile design may yield an unaesthetic result

to a particular individual. The important thing to remember here is “Beauty is in the eye of the beholder”. Aesthetic is subjective.

8. Axial Alignment: There should be a generalized mesial inclination of all anterior teeth. This inclination becomes more pronounced as we progress from central to canine.

9. Tooth Arrangement: The tooth position in the arch can play a significant role in lip position, which ultimately can effect how much tooth will show at rest. Ideally, a line should be able to be drawn from one cusp tip of the maxillary canine to the other and should bisect the incisive papillae. For proper lip support, the facial of the central incisors should be 12.5 mm from the most distal border of the incisive papillae.

10. Graduation: There should be a gradual reduction of size from closer to farther to optimize aesthetic value. The alignment of the buccal of each tooth should help to align the next distal tooth. This gradient effect is what is actually described when we state that the patient does not have adequate buccal “corridor”.

11. Tooth Shape and Contour: Aesthetic desires and any function limitations will determine tooth shape. Since aesthetics are subjective, it’s important to thoroughly understand what the patient desires. Photos, plaster models and denture teeth are excellent to help the communication process.

12. Contact Points: The placement of the contact points plays two roles. It first helps to eliminate food impaction, and second it helps to establish symmetry. Ideally, the contact points should progress from incisal to cervical as we move distal to midline. These contact points help establish symmetry as the contact points follow the curvature of the lips/lateral.

13. Incisal Embrasures: The incisal embrasures should progressively get larger or open as we progress distal. The shape of incisal embrasures plays a very important role on the determination of the masculinity and femininity of a patient.

14. Gingival Heights and Contours: Gingival heights should also follow symmetry between right and left.