Smile Design Principles

- Central incisors
- Mid-line
- Axial inclinations
- Arch form
- Smile arc
- Gingival height symmetry and zenith placement
- Contact points and Embrasure form
- Gradation
- Buccal corridors
- Golden proportion
- Balance and symmetry

Central Incisors

- Incisal Edge Position
- Length to Width Ratio

Utilizing an Intra-Oral Composite Mock-Up for Determining Incisal Edge Position

Full smile  Lip at rest
• Wear mock-up for a trial period to evaluate aesthetics, phonetics, and function (communication with the patient)
• Take an impression and pictures for a diagnostic wax-up (communication with the lab)
• Take impression to use as a matrix for provisionals, make depth cuts, and begin preparations

Evaluation of Intra-oral Mock-ups and Provisional Restorations

The Three F's

• F acesthetics (facial esthetics)
• F onetics (phonetics)
• Function

Function

• Centric stops on all teeth (when possible)
• No posterior contact in excursive movements (anterior and canine guidance)
• Acceptable overbite and overjet
• Comfortable envelope of function
Length to Width Ratio of Central Incisors


Axial Inclinations

Correcting Axial Inclinations

Arch Form

- Ovoid (U-Shape)
- Tapered (V-Shape)
- Square
Benefits of a Mock-Up

- Can help determine incisal edge position
- Can help to establish proper arch form
- Can serve as a guide for gingival height symmetry, tooth proportion, and facial contours
- Will aid in evaluating aesthetics, function, and phonetics
- Can be used as a template for provisionals in the absence of a wax-up
- Can be beneficial for laboratory communication and patient feedback

The Smile Arc (Incisal Curve)

Sarver DM. The importance of incisor positioning in the esthetic smile: the smile arc. AJODO 2001; 120: 99-111

Gingival Height Symmetry

Zenith Placement
Options for Treating Gingival Asymmetry

- Gingival recontouring (gingivectomy)
- Crown lengthening with osseous surgery
- Orthodontic intrusion
- Orthodontic extrusion
- Gingival graft

Excessive Gingival Display (Gummy Smile)

- Short upper lip
- Hypermobile lip
- Vertical maxillary excess
- Altered passive eruption
- Compensatory eruption
- Anterior dentoalveolar extrusion

Biologic Width
Altered Passive Eruption
Short clinical crown, gummy smile, no incisal wear or extrusion

Gingivectomy with diode laser

Altered Passive Eruption
Short clinical crown, gummy smile, no incisal wear or extrusion
Incisal Edge Position and Periodontal Crown Lengthening

Zenith Placement in Diastema Closure

Contact Points and Embrasure Form
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 Periodontal 1992; 63: 995-996

Lengthening the contact area to close dark triangles

Gradation
Buccal Corridors


Golden Proportion


Levin EL. Dental esthetics and golden proportion. J Prosthet Dent 1978; 40:244-252

• Symmetry  related objects viewed on both sides of a central axis

• Balance  observed as the eye moves distally from the center