

## ENHANCING AESTHETIC DENTISTRY WITH DIGITAL SMILE DESIGNING

Digital Smile Design is a digital mode that help us to create and project the new smile design by attaining a simulation and pre visualization of the ultimate result of the proposed treatment.

- STEPS 1 - INTAKE AND PHOTO SESSION
- ↓
- STEPS 2 - DIGITAL SMILE DESIGN
- ↓
- STEP 3 - WAX UP
- ↓
- STEP 4- TRY- IN
- ↓
- STEP 5- TREATMENT PLAN
- ↓
- STEP 6- AESTHETIC PROCEDURES
- ↓
- STEP 7- PHOTO SESSION IDEAL SMILE

### Generations

1. Analogue drawings over photos and no connection to the analogue model.
2. Digital 2D drawings and visual connection to the analogue model.
3. Digital 2D drawings and analogue connection to the model
4. Digital 2D drawings and digital connection to the 3D model
5. Complete 3D workflow
6. The 4D concept. Adding motion to the smile design process.



1. After facial photographs uploaded, two baselines are drawn on the center of the slide so that it forms a + sign and The three facial lines are grouped together to analyze the relationship between the lips, gingiva, and teeth



2. A template tooth is placed over the original photograph so that relationships are established and Drawing the three reference lines that will allow to evaluate whether the intraoral photograph is concurrent with facial baseline data



3. A rectangle guide representing the ideal tooth proportion is placed over the, teeth thereby comparing the preoperative proportion to the ideal one

### Future Directions And Innovations In DSD

- Advancements in digital imaging and software tools
- High-resolution imaging
- Augmented reality (AR) and virtual reality (VR)
- Computer-aided design/computer-aided manufacturing (CAD/CAM) systems
- Three-dimensional (3D) printing



Metismile 3D face scanner (Handheld)



Rayface facial 3D scanner

### Types Of DSD Software

1. Photoshop CS6
2. Smile Designer Pro (SDP)
3. Aesthetic Digital Smile Design
4. Cerec SW 4.2
5. VisagiSMile (Web Motion LTD)

### Vital Elements Of Smile Designing

#### (Dental Composition)

The vital elements of smile designing :

- 1) Tooth components
  - a) Dental midline.
  - b) Incisal lengths.
  - c) Tooth dimensions.
  - d) Zenith points.
  - e) Axial inclinations.



3D intraoral scanner

### Advantages

- Patient satisfaction
- Time and cost efficiency
- Interdisciplinary collaboration
- Restoring natural esthetics with DSD-guided treatments
- Improved treatment planning accuracy and predictability



7. Minimal dental procedure that has been done and Postoperative redesigned smile

## DIGITAL SMILE DESIGNING WORKFLOW



6. The reference lines measured through the ruler are then transferred onto a cast with precision using a caliper device



5. A digital ruler is used to evaluate the esthetic adjustments needed to be done (i.e., crown lengthening, margin placements in the veneers)



4. Using editing tools Final teeth outline showing the relationship between the preoperative situation and the ideal design is done

### Challenges And Limitations Of DSD

- Technical limitations and learning curve
- Equipment and software requirements
- Patient expectations and psychological factors
- Unrealistic expectations
- Financial considerations



Dental LED Light