The Newest Generation of Aesthetic Dentistry – Digital Smile Design

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Digital Smile Design is part of the new digital revolution in Aesthetic Dentistry, helping dentists to approach cases more easily and accurately as well as create a better communication between the rest of the team.

Digital Smile Design (DSD)
As dentists, you may often find you have cases that require complicated treatments and aesthetic procedures. A diagnosis from the dental chair is often no longer enough to make a proper analysis and correct diagnosis.

Today, it is necessary for these procedures to begin with the use of digital technology with digital pictures and impressions. You can then transfer everything to the computer and work on the overall treatment procedure from there rather than directly from the patient. DSD allows you to be more accurate, precise and creative when designing the optimal treatment procedure.

To create an accurate DSD, you will require:
- A digital camera
- Digital records (a strict photography protocol should be followed in every case to keep a concise record and show all aspects of each treatment)
- A computer programme suitable for Aesthetic Dentistry
- Study models for taking real measurements of the teeth.

The following steps can then be used to complete your DSD restoration:
1. It is first-off important that you have a good knowledge of Aesthetic Dentistry basics in order to create a DSD. You should be able to recognise the correct position and proportion of all elements involved in a beautiful smile, including:
   - Teeth exposure during rest position and smile according to the age of the patient
   - Midline – facial and dental
   - Smile line – high smile, medium smile or low smile, ie: how much of and how many teeth show when smiling
   - Profile – convex or concave
   - Gum exposure – identifying a gummy smile and the correct procedure for solving this problem

2. Once you have transferred all of the records to your computer, you can then analyse the patient's pictures and work in all of the above parameters, both extracural and introral (see Fig. 1a, Fig. 1b).

3. Using the suitable programme, you can then design the appropriate smile for the individual patient. (See Fig. 2a, Fig. 2b, Fig. 2c)

4. Once the DSD has been created, you can transfer all of the information to the lab technician allowing him/her to build the wax-up and finally proceed to the mock-up (a prototype of restorations that will be created).

5. After the mock-up has been tested and adjusted as necessary, you should then check that the DSD matches what has been created. You are then able to carry on with the restorations as planned.

You will find a DSD is a remarkable tool for planning a treatment procedure digitally as well as creating the wax-up and future mock-up, temporaries and final restorations. It is the best way to work closely with the laboratory (see Fig. 3), saving time and further patient visits and you are able to show the patient approximate results with the computer image you have created.
Just **ONE STEP** to perfection

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References


Fig. 5f: Initial situation with DSD

Fig. 5g: Initial situation intraoral picture

Fig. 5h: Initial situation with DSD

Fig. 5i: Before

Fig. 5j: After

Fig. 5k: After

Fig. 5l: Before

Fig. 5m: After

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Dr. Natalia was graduated from the “Alfonso X el Sabio” dental school in Spain. Since then, she has been working as a general and aesthetic dentist. She built her career between England and Spain, before moving to New York to complete a post-graduate program in "Aesthetic and Cosmetic Dentistry" at the New York University, NYU. She is a speaker collaborator in Aesthetic programs at CEODONT, Spain, and has been the director of the NYU’s international program "Essentials for the Esthetic Dentist". She is currently working in Dubai, as an Aesthetic and Cosmetic Dentist.