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 restorations: 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 posi-

tion 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
- Smile symetriesTeeth size, color, texture and pro-
- portion • Papillas – the correct amount of interdental papila exposure will determinet the beauty of each smile

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





Fig. 1b: Intraoral analysis

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





Fig. 4c: Rest position to evaluate the teeth exposure and the lip support

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 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 actual approximate results with the computer image you have created.





Fig. 2b: DSD and analysis

Fig. 2c: DSD ready to be presented to the patient

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).





Fig. 5a: Gum recontouring with laser







Fig. 4b: Intraoral picture with mock-up in place





Fig. 5c: Veneer preparation



Fig. 5d: Veneer insertion

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Fig. 5e: Final situation with preliminary design overlaping to check accuracy



Fig. 5i: Before



Fig. 5f: Initial situation with DSD



Fig. 5j: After



Fig. 5g: Initial situation intraoral picture

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Fig. 5h: Final situation with Upper 7 veneers and one temporary implant crown

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