

Foundation for effective collaboration

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In addition to a bite registration, facebow transfer and impressions, intraoral and extraoral photos form the most important key in the communication between dentist and dental technician. The importance of photographic communication is particularly significant if the dentist and dental technician collaborate with each other from distant locations and have to fulfil demanding esthetic and functional requirements. Photos are not only used for the initial transfer of information to conduct an esthetic and functional analysis on the basis of a wax-up, but they also play a significant part in many other steps of the restorative process, such as in the clinical evaluation of the proposed restoration (mock-up) and in the shade selection of the tooth and preparation.

'Adequate photographic equipment is an indispensable tool for the teamwork between dentist and technician.'

Scope of photographic documentation

To be able to obtain a detailed impression of the clinical situation at hand, dental technicians should receive a comprehensive photographic portfolio comprising the following shots:

1. Portrait photo of the patient with the facebow (Figure 1)
2. Portrait photos showing the patient with relaxed lips, with a light smile and with a full smile (Figure 2)

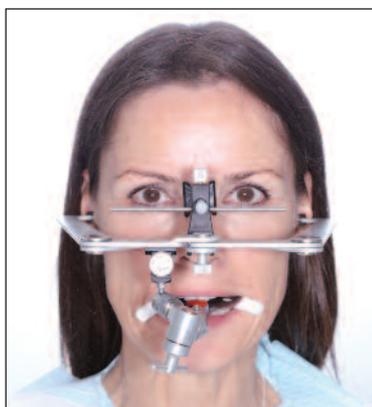


Figure 1: A portrait photo of the patient with the facebow in place gives the dental technician valuable information on the position of the bipupillary line in relation to the occlusal plane.

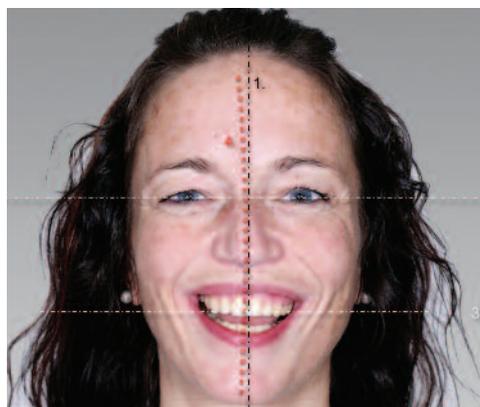


Figure 2: A portrait photo showing the patient with a full smile is used for analysing basic esthetic parameters: 1. centre line, 2. bipupillary line, 3. occlusal plane. The patient presented in this case shows asymmetries in the area of the facial midline (4.), gingival contours and the occlusal plane/buccal corridor.

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3. Intraoral photos from the anterior front, lateral left and lateral right in static and dynamic occlusion with special focus on the area in need of treatment (Figs 3 and 4)
4. Intraoral photos from the occlusal showing the complete upper and lower jaw

Shade selection

Before the teeth are prepared, shade selection should be performed (e.g. with an A-D shade guide) (Figs 5 and 6). It is essential to clearly define and agree with the patient on the final tooth shade. If any tooth whitening procedures have been carried out, they should be completed by this stage. Generally, the brightness value has a more decisive effect

than the tooth shade proper on the final outcome. If the patient cannot clearly decide between two brightness values, selecting the brighter version of the two is advisable. In case of doubt, the dental technician will be able to decrease the brightness value later on, if need be. Conversely, if the brightness value turns out to be too low, it is virtually impossible to increase it at a later stage by using stains. It is essential to take a picture of the closest shade sample (reference shade) together with the remaining dentition. If translucent restorations are created, it is also important to include a die shade guide (IPS Natural Die Material) to enable the dental technician to manufacture laboratory dies in a matching colour (Figs 7 and 8).



Figure 3: Frontal view of the upper anterior teeth. An autoclavable black contrastor was used to obtain a more detailed picture of the morphological structures (Flexipalette, www.smileline.ch).



Figure 4: Frontal view of the upper anterior teeth. To facilitate the analysis of the internal structures, it may be useful to take an additional picture using a cross-polarization filter to eliminate all reflections (polar_eyes, www.finest-dental.de).

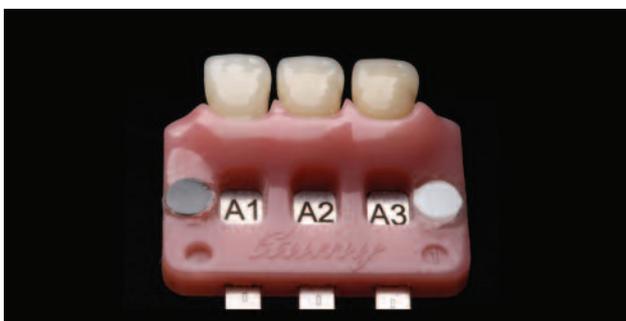


Figure 5: Shade selection with a gingival mask including a white balance and grey card (modified according to MDT Otto Prandtner). The shade tabs of the A-D shade guide may be fitted in the gingival mask and photographed together with the relevant tooth regions at the beginning of the treatment (Gumy, Shofu, Art. PN 7040).

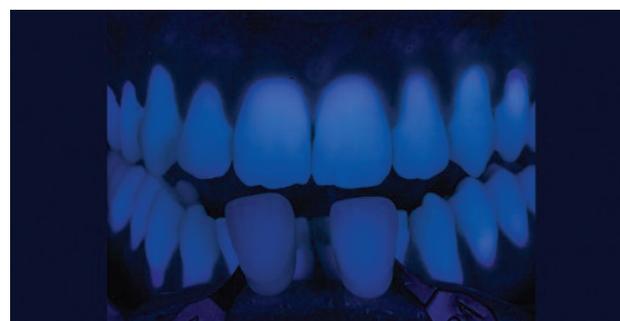


Figure 6: For fine tuning the intensity of the tooth's fluorescent level, additional pictures using a UV light source may be useful and may be referenced with shade tabs (fluor_eyes, www.finest-dental.de).

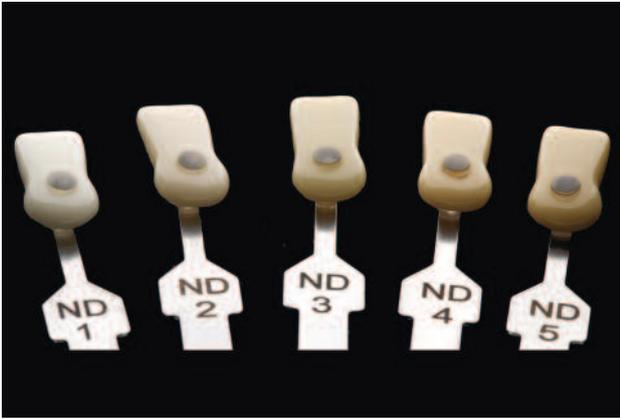


Figure 7: Various shade samples of the IPS Natural Die Material shade guide.

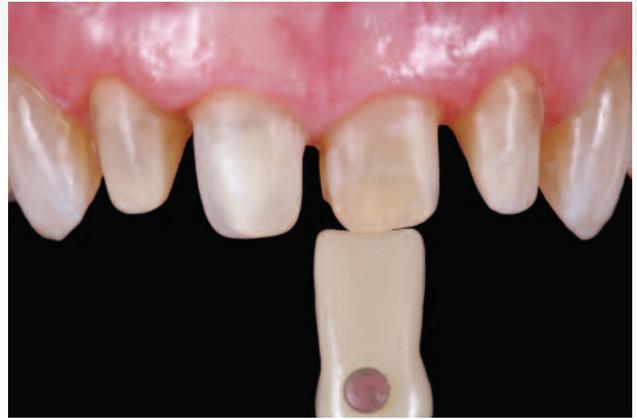


Figure 8: Selecting the shade of the severely discoloured central incisor after preparation for a full wrap veneer.



Figure 9: Professor Edelhoff during intraoral photography.

Conclusion

High-quality photographic documentation (Fig. 9) provides an indispensable basis for the successful collaboration between the members of the restorative team and provides a high level of predictability with regard to the clinical result.

Acknowledgement

I would like to thank Oliver Brix for providing the dental lab pictures.

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