



The planning of aesthetic corrections - what is a reliable method?

BY FRIEDER GALURA

In view of his professional career, a young patient wants to have his anterior teeth aesthetically corrected. The labial view of the planning models shows the situation before treatment (Figure 1). The lateral incisors in the upper jaw are missing due to agenesis and there is a diastema between the maxillary incisors. The fully toothed lower jaw shows a big gap between the central incisors.

How to start?

Computer-aided dental imaging increasingly used in dental practices can easily simulate a "Hollywood smile" for the patient, however, it is at the risk of creating great expectations which the dental technician cannot live up to. You can design a new hairstyle on the screen with low risk as hair grows again. But tooth material lost through preparation will not be naturally regenerated. So what is a reliable method for planning aesthetic corrections?

First, the planning models are duplicated (Figure 2). Three bridges are planned - in the upper jaw 11-13 and 21-23. The gap between the teeth 31 and 41 in the lower jaw should be closed with a pontic. Afterwards, you prepare the abutment teeth (labside). The dies should not be ground too sparsely to preserve sufficient dentine for the pulp space.

A tooth collection of stone models (Figures 3 and 4) makes the wax-up easier. Then you take a putty impression of the tooth shape which is genetically similar to the patient's teeth (Figures 5 and 6). This silicone key can be used to make the wax veneers (Figure 7).

StarWax Aesthetic waxes (Dentaurum) are suitable for this procedure (Figure 8). The shade of the waxes may have either positive or negative influence on the patient's imagination. For the try-in, you can make wax veneers or wax crowns to look like natural teeth, using Aesthetic waxes (shade A1, B3, transpa).

The position of the dies must be taken

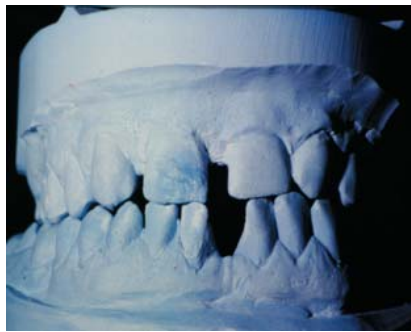


Figure 1. The planning models.



Figure 2. The labial preparation.



Figure 3. The teeth collection of the lower jaw.



Figure 4. The teeth collection of the upper jaw.

into consideration for the wax-up. The lateral incisors overlap the central incisors due to lack of space. Figures 9 and 10 show the completed wax-up to check the space and the aesthetic correction. A self-made lip template (Figures 11 and 12) helps to get a first impression - though the lips are not male (Figure 13). In all probability, this result will not fill the patient with enthusiasm. As an alternative, the canines may be reshaped as lateral incisors with ceramic veneers (Figure 14).

The dentist starts the treatment in the lower jaw. Figure 15 shows the labial view of the preparation of the teeth 31 and 41. A silicone key made on the basis of the previous wax-up is placed in front of the wax pattern to check the space for ceramic veneering (Figure 16).

The bridge is cast with a CoCr alloy (remanium star, Dentaurum) and veneered with porcelain (Carmen, Dentaurum) (Figures 17 and 18). The articulation is controlled with a semi-adjustable articulator (Figure 19).

Figure 20 shows the situation before dental treatment. The bridge is inserted for trying in (Figure 21). It shows an aesthetic appearance both with the contour of the lips and the incisal structures of the maxillary incisors (Figure 22). The shade of the ceramic is indeed a little bit too bright but as the patient wants to have his adjacent teeth bleached, this is a satisfying result for all concerned.

Frieder Galura trained as a dental technician at the University Dental Hospital in Heidelberg, Germany. He has worked in many dental practices and laboratories in Germany, concentrating on ceramics, milling work and attachment techniques. He commenced working for Dentaurum as dental technician in the prosthetic department in 2002 and has lectured and run training programmes for them both in Germany and throughout the world. Since 1995, he has been published in dental technical magazine in Germany, France, Spain, Italy and Japan.



Figure 5. The selected anterior teeth.

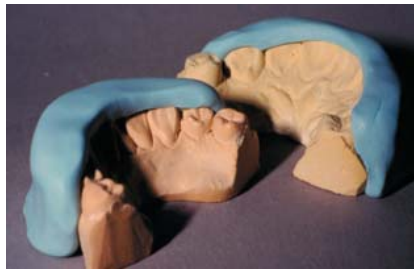


Figure 6. The putty impression.



Figure 7. The wax veneers.



Figure 8. The aesthetic waxes.



Figure 9. The finished wax-up.



Figure 10. The wax-up in detail.

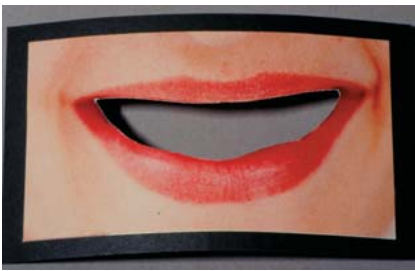


Figure 11. The lip template front side.



Figure 12. The lip template rear side.



Figure 13. The wax-up with lip template.



Figure 14. The planned alternative.



Figure 15. The chairside preparation labial view.



Figure 16. The wax pattern with putty key.



Figure 17. The finished bridge labial view.



Figure 18. The finished bridge lingual view.



Figure 19. The articulation check.



Figure 20. The situation before treatment.



Figure 21. The inserted bridge.



Figure 22. The bridge with lip contour.