Aesthetic cosmetic restoration in a case of tooth fusion in the maxillary anterior region

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Beauty is undoubtedly in the eye of the beholder. However, regardless of the subjective perception of beauty there is also a widespread image of ideal beauty for the human face that is based on objective parameters. This favourable overall impression comes about through a combination of pleasing proportions and symmetry (keyword: the so-called “golden section”) and harmonious congruence of bone structure, eyes, nose and mouth. In this respect the lips, gums and teeth are of particular importance for the image we have of ourselves and the perception others have of us.

The effect of a beautiful smile is common knowledge. An appealing smile is characterised by a well-proportioned, symmetrical balance between the teeth themselves, and between the teeth and gums and the lips and face. The gum should enclose each tooth in a parabolic arc at the neck of the crown, with the zenith, i.e. the highest point of the gum, lying within the distal area of this circumference. Ideally, the interdental papillae should be level with the cervical third of the teeth.

Figure 1: Orthodontic treatment with brackets to correct spacing.

Figure 2: The patient’s smile showing pronounced tooth fusion of the maxillary incisors.
Aesthetic defects in the anterior region, such as missing teeth and/or gum or a receding gumline, may cause patients to lose self-esteem and result in a lack of confidence and feelings of inhibition. This may in particular be an extra burden on adolescents, who are already trying to cope with all the emotional turmoil of teenage years.

Modern dentistry is now able to change and recreate the shape, colour and texture of the teeth. Recent years have been characterised by constant improvements in the techniques and materials used for cosmetic aesthetic dentistry, with a key role being played in particular by “pink aesthetics”. This trend has come about through scientific advances and in response to social and cultural pressure regarding an increasingly pronounced ideal of beauty. The treatment of gingival recession presents the dentist with a special challenge, particularly when it comes to “black
Figure 9: Determining the tooth proportions.

Figure 10: Transecting the crown in the incisal third and creation of a groove on the vestibular surface.

Figure 11: Finishing the groove with a diamond bur.

Figure 12: Frontal view of transected teeth.

Figure 13: Application and distribution of the composite with a brush made of marten hair.

Figure 14: Checking the proportions according to the golden section using a pair of calipers.

Figure 15: Application and distribution of the composite with a marten-hair brush.

Figure 16: Vestibular application of the composite Amaris (VOCO) for enamel and simultaneous closure of diastema.
reproduce the gum. Later on, a selection of ceramics also became available for the prosthetic replacement of gingival tissue. However, individual shade matching proved difficult.

holes* and the aesthetic correction of interdental papillae in the anterior region of the mouth.
In the past it was acrylates that were used to artificially

Figure 17: Distribution and modelling of the composite with a marten-hair brush.

Figure 18: Frontal view of the facets directly produced using the composite Amaris.

Figure 19: Application of the composite Amaris Gingiva for artificial build-up of the interdental papillae.

Figure 20: Adaptation and modelling of the composite Amaris Gingiva and dark pigments using a spatula (type “MdeO”).

Figure 21: Precision modelling with the marten-hair brush.

Figure 22: Side view of smile on left.
Figure 23: Side view of smile on right.

Figure 24: Frontal view of facets and interdental papillae.

Figure 25: The patient’s smile with harmonious proportions between the teeth, lips and gums.

Figure 26: Amaris Gingiva kit (VOCO).

Figure 27: Position of the papillae in relation to the upper lip with a light smile.

Figure 28: View of a smile with greater exposure of gum.

Figure 29: Side view of artificial papillae on left with a light smile.

Figure 30: Side view of artificial papillae on right with a light smile.
Removable prostheses, so they were not suitable for restoring single teeth.

The attention of researchers and manufacturers subsequently turned to the development of gingiva-coloured materials which can be modelled inside the oral cavity, provide for customised shade matching and permit adhesive attachment to the dental hard tissue. Today it is therefore possible to restore exposed dental necks with light-curing composites which can be individually matched to the colour and texture of the gum and thus help to lend well-balanced proportions to the teeth.

The highly aesthetic restorative material Amaris (VOCO) was used to treat the following clinical case of a 15-year-old patient, who presented with an uncommon example of tooth fusion (synodontia) of the maxillary incisors 11 and 12 and, respectively, 21 and 22, including a diastema. The highly aesthetic gingiva-coloured restorative Amaris Gingiva (VOCO) was selected here to simulate the gums. This case proved that minimally invasive methods are also suitable for treating major aesthetic defects in the immediately apparent anterior region of the mouth, thus providing a young patient with a perfect smile.

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