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Aesthetics

Understanding and Communicating Aesthetic Dentistry

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Understanding and Communicating Aesthetic Dentistry

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Aesthetic dentistry has created its own niche in today's world. The value of dentistry has taken on a greater meaning. Through the use of porcelain veneers and conservative crown restorations, dental professionals have become major players in the development or restoration of facial aesthetics. This role utilizes the basic principles of smile, preparation, and facial designs in the dentist's armamentarium. This article describes the incorporation of all these modalities into achieving a predictable aesthetic result.

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Aesthetic dentistry has created its own niche in today's world. The value of dentistry—more importantly the *perceived* value of dentistry—has taken on greater meaning. Aesthetic procedures now range from the "extreme" makeover to the "simple" makeover, both of which use various principles of the "Smile Lift." The "Art of Facial Aesthetics" is a routine phrase and approach in many contemporary dental practices. This phrase has even greater meaning when one considers the expansion of the whitening market and the increased use of aesthetic orthodontics (ie, Invisalign, Align Technology, Santa Clara, CA). Certainly, the use of porcelain veneers and conservative crowns has enabled dentists to become a major player in the development or restoration of facial aesthetics. This role utilizes the basic principles of smile, preparation, and facial designs in the dentist's armamentarium. The purpose of this article is to incorporate all these modalities into achieving a predictable aesthetic result.

VENEER PREPARATION DESIGN

When considering preparation design, one must first take into account the principles of minimally invasive dentistry. The preservation of tooth structure should be a primary objective. In the early 1980s, virtually no tooth preparation techniques existed. Veneers were bonded directly to teeth without reduction, and a lifeless,

FIGURE 1. Case 1. Preoperative appearance demonstrates the presence of tiny teeth in the anterior region. The patient desired a harmonious restoration that minimized the appearance of the gingival tissues and a more "grown-up" appearance.

FIGURE 4. The patient was able to preview the temporaries before the final restorations were placed. Note that teeth #4 and #13 were fabricated in a laboratory without preparation.

FIGURE 9. Postoperative appearance of the definitive restorations following cementation. Note the harmonious shape and size of each tooth according to the golden proportion.

bulky appearance resulted. Aesthetic dental procedures then shifted toward techniques that required over preparation of teeth to "make room" for the layering of pressed ceramics. Today, with new technologies and the evolution of master ceramists, dentists can be ultraconservative with the preparation and still obtain beautiful, natural aesthetics.

When beginning a case, it is imperative that the end result is visualized by the clinician before any preparation has begun. This can be accomplished by using a waxup, a prepared model, and for a preparation guide from the laboratory. Once these have been carefully examined, an ideal arch form can be obtained through tooth contouring. Reduction can then be performed incisally and labially in three planes, following the contour of the tooth prior to the placement of the finishing margins. Reduction depth is determined by the type of material selected: approximately 0.4 mm to 0.6 mm facial reduction will be required for feldspathic or "stackable" porcelain; 0.6 mm to 0.8 mm will be needed for pressed ceramic, and 1 mm to 1.5 mm incisal reduction will always be required.

Provisional restorations are then fabricated either from a putty template created using the waxup or an alginate capture of the patient's original teeth. The provisional material (ie, Luxatemp, Zenith DMG, Englewood, NJ) is flowed into the template, an oxygen inhibitor is placed on the teeth, and the material is allowed to partially set. The provisional restorations are removed and checked to ensure sufficient material thickness exists. Final impressions are then taken (ie, Permadyne/Impregum, 3M Espe, St. Paul, MN), and a bite registration is obtained prior to photographic capture of the stumped shades of the teeth.

The provisional restorations are then spot-tacked using a resin cement material (ie, Luxaflow, Zenith DMG, Englewood, NJ). It is the author's preference to use a bulk amount of material in this region and then contour the provisionals, taking into consideration the patient's facial features, lip line, smile width, mandibular lip position, and interpupillary plane.

FIGURE 10. Case 2. Preoperative view of overcrowding and misalignment. The patient declined orthodontics and extraction of tooth #11 and desired a minimally invasive prosthetic restoration.

FIGURE 11. Occlusal view of the maxillary dentition. Note the severe overcrowding and tooth displacement surrounding the aesthetic region.

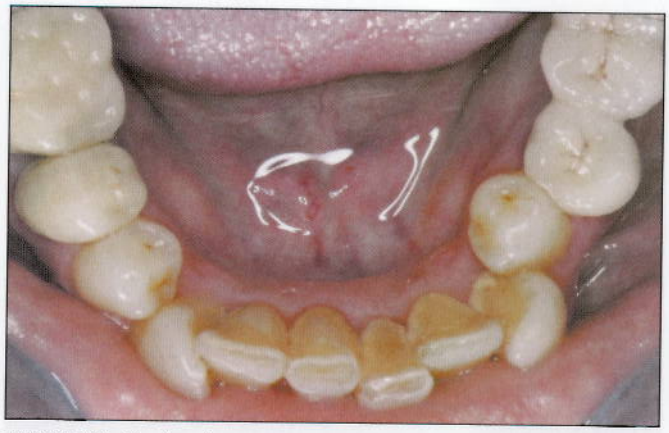

FIGURE 12. Occlusal appearance of the mandibular arch, where severe crowding was also evident.

FIGURE 18. Postoperative appearance of the maxillary region demonstrates improved aesthetics and harmony.

CONCLUSION

Aesthetic dentistry continues to build the interest of both patients and professionals. In order to ensure optimal results, the use of a clear, concise communication channel is necessary. In allowing sufficient time for a case review, treatment planning phase, provisionalization review, and laboratory consultation, the patient's expectations can be adequately met. Both of the aforementioned cases presented different concerns with regard to the patients' desires, expectations, and clinical needs.

Selective patient treatment is necessary and developing a close relationship with the laboratory technician is paramount. With proper guidelines and team support, the understanding and communicating of patient desires can be brought to fruition. As with all aesthetic smile makeovers, the rewards are usually worth the efforts required. It is a special time to be a dentist. With the advancements of hands-on courses and lectures, continuing education is easily obtained if a dentist has the desire, passion, and drive to pursue the field of aesthetic dentistry.

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