Orthodontics vs Restorative Materials in Treatment Plans

Today’s “cosmetically aware” adult patients are seeking out advice and opinions about oral/facial esthetics from dental professionals. Recently, many articles have been published about the “quick fixes” available in esthetic therapy. With the advent of next-generation restorative materials and the ability to predictably bond to remaining tooth structures, some authors advocate composite bonding or veneering of misaligned teeth, rather than orthodontic therapy. Composite bonding or veneering are certainly viable solutions in some cases and give patients the option of a shorter treatment time; in other cases, they are poor choices when a patient desires a more conservative option with a good long-term prognosis, less maintenance, and improved facial form.

TREATMENT USING RESTORATIVE MATERIALS

Although restorative materials may offer patients the opportunity for rapid smile makeovers, the inadequate management of the total oral facial esthetic pattern and lip drape can be problematic. Composite bonding or veneering also harbors the potential risks of overaggressive tooth preparation, or the overbuilding of adjacent teeth to correct poor alignment. In addition, there is a significant long-term maintenance concern with bonding and veneering restorations because they have limited life spans and will need to be periodically refabricated.10,11

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Today, dental professionals worldwide can offer their patients significantly improved dental esthetics with modern restorative materials. However, simply changing the color and shape of the dentition and using ceramics to better reflect light because of poor tooth angulation limits the ability to adequately address overall facial dimensions. When a dentist reviews these types of esthetic issues with an adult patient, an overall

Figures 1 through 3—The patient insisted upon the best option to change her overall smile as well as improve her lower facial esthetics.
Figures 4 through 8—The patient exhibited overall class II bimaxillary protrusion with moderate crowding in both the upper and lower jaws. Orthodontic therapy was the superior option and the least expensive choice to address the patient's esthetic and functional complaints.

In many cases, orthodontic treatment gives the patient a better, more conservative option at a reduced cost, and with a greater impact on overall facial harmony and esthetics. With today's technology available in orthodontics, the ability to treat patients with esthetic appliances, lighter wires, and in shorter treatment times is also available. In many instances, limited adult orthodontic therapy can be completed in fewer than 12 months and can be combined with limited restorative dentistry and bleaching.

**Case Report**

In early 1997, a patient presented to our office with protruding teeth and an unattractive smile. Orthodontic treatment can avoid “aggressive dentistry,” including tooth preparation, possible endodontic therapy, and significant restorative dentistry. It is also a less expensive long-term maintenance proposition because it avoids the necessity of refabricating failing restorations. The unaltered natural dentition has an enhanced life span, unlike restorative materials that, over time, may risk chipping, staining, leaking, or decaying.3
Figures 9 through 11—The patient, toward the end of her orthodontic therapy and during the detailing stage. Note the improved occlusal class I molar and cuspid relationships.

(Figures 1 through 3). The patient insisted upon the best option to change her overall smile as well as improve her lower facial esthetics. Although restorative materials could have positively altered individual tooth esthetics for this patient, they could not have addressed her overall lower facial contour and protruding dentition, and actually may have exacerbated these problems. Figures 4 through 8 show the patient's overall class I bimaxillary protrusion with moderate crowding in both the upper and lower jaws.

In this case, only orthodontic therapy could reduce this patient’s protrusion, significantly improve her lower facial drape and lip support, and straighten her dentition. She could also avoid significant restorative dentistry, which would limit costs.

The patient was treated with esthetic porcelain brackets (Allure, GAC International, Inc.) in the upper arch and standard stainless steel brackets in the lower arch, so her orthodontic therapy was fairly inconspicuous. Because of the patient’s protrusion and the need for maximum anchorage to retract the anterior teeth, the four first bicuspid teeth were extracted as part of orthodontic therapy. This allowed for an
Figures 12 and 13—The expanded arch form of the upper and lower arches helped to create a wider smile, fill the buccal vestibules, and enhance the overall esthetic result.

Figures 9 through 11 show the patient toward the end of her orthodontic therapy and during the detailing stage. Note the improved occlusal class I molar and cuspid relationships. Figures 12 and 13 display the expanded arch form of the upper and lower arches that helped to create a wider smile, fill the buccal vestibules, and enhance the overall esthetic result.

Figures 14 through 16 show the results after debonding and polishing. Note the alignment of the dentition and the esthetic and functional results. Figures 17 and 18 display the final facial views after orthodontics. Note the improved esthetics of the lower face; the lack of protrusion allowed for a better lower facial drape of the lips and supporting structures. Broadening the arch allowed for a wider smile to fill the buccal vestibules and avoided any “negative spaces.” Figures 19 and 20 show the pre- and postoperative smile views; the postoperative view shows the newly developed dentition alignment and improved esthetics. The patient followed orthodontics with at-home bleaching to maximize the effect and brightness of her new smile.
Figures 14 through 16—Results after debonding and polishing. Note the alignment of the dentition and the esthetic and functional results.

Figures 17 and 18—The final facial views after orthodontic. Note the improved esthetics of the lower face; the lack of protrusion allowed for a better lower facial drape of the lips and supporting structures. Compare to Figure 3.

**Conclusion**

A dentist should evaluate and consider both orthodontic solutions and restorative options for adult patients seeking esthetic improvements. With the advent of adhesive restorative materials, the dental profession may be avoiding orthodontics for their patients too often. Dentists should first consider cost, facial esthetics, mainte-
Case Study continued

Figures 19 and 20—Pre- and postoperative smile views; the postoperative view shows the newly developed dentition, alignment, and improved esthetics.

**REFERENCES**


