

A Review of Direct Orthodontic Bonding

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Introduction

The development of adhesives capable of efficiently bonding orthodontic attachments to enamel has been substantially affected by research aimed at increasing the adhesive characteristics of conservative dentistry materials. The orthodontist's adhesion problem is far less severe than that of conservative dentistry. Because enamel has a lower water and organic content than dentine, it is simpler to bond to enamel rather than dentine.

Furthermore, this bond only has to be maintained for about an hour; acid pre-treatment of the enamel surface does not cause pulpal irritation; an exact colour match is not required; and the bulk volume of adhesive is quite little. Although the likelihood of shear pressures is enhanced, abrasion resistance is not an issue. Acid pre-treatment of dental enamel is now widely acknowledged as required for achieving a successful bond between this surface and most adhesives.

This acid pre-treatment with 85 percent phosphoric acid resulted in greater adhesion. More work was done with modified acrylic resins, which reduced the cure time to around 5 minutes. There were many studies published that described the usage of acrylic as a good adhesive. Attempts to cement orthodontic attachments directly to enamel without etching were documented, however all nine compounds were found to be ineffective.

About the Study

This cement's direct bonding of attachments with zinc polyacrylate was disclosed. They also published the first description of partial direct bonding in the United Kingdom literature, using an epoxy resin system engineered to endure maximal orthodontic stresses. However, the needed curing time of 30 minutes is impracticable.

In the last two decades, the adult population has placed a higher emphasis on dentofacial aesthetics, with an increase in demand for orthodontic treatment among appearance-conscious individuals. The desire to improve dental aesthetics has been noted as the key motivator in this group of patients. Adults' periodontal condition requires special monitoring since they are more likely to have already suffered periodontal disease.

Although there is a significant frequency of gingival inflammation worldwide, epidemiologic studies reveal that advanced periodontal disease affects only

roughly 8% to 30% of the population. Patients with a history of periodontal disease have a higher rate of infection, and specific teeth, particularly the maxillary and mandibular molars, have a higher rate of infection. Before beginning a treatment plan requiring comprehensive orthodontics, it is critical to identify individuals who are prone to the illness's more severe symptoms and to manage any existing disease.

The maxillary labial segment of the typical periodontal patient frequently shows proclination, uneven spacing, rotation, and overeruption of the teeth. These variations in tooth position may affect long-term periodontal treatment by making plaque management more difficult and jeopardising the dentition's aesthetics and function. The kind and sequence of tooth movements will be determined during orthodontic treatment planning for any malocclusion [1-5].

Conclusion

This could be either adjunctive orthodontic treatment (moving teeth to improve a specific aspect of the occlusion in order to facilitate other dental procedures needed to control disease and restore function) or comprehensive orthodontic treatment (moving teeth to improve a specific aspect of the occlusion in order to facilitate other dental procedures needed to control disease and restore function) (treatment to correct the malocclusion). The goal of this article is to address periodontics and orthodontics concerns in adults, with a focus on the periodontally impaired patient.

References

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