Surface Topography of Enamel Bleached At Home Versus In Office and its Influence on The Bond Strength to Resin Composite Restorative

Thesis

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BY

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TO MY FAMILY

FOR THEIR ENDLESS SUPPORT AND ENCOURAGEMENT

TO MY CLOSE FRIENDS

FOR THEIR TRUE LOVE AND SUPPORT

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Introduction

Today dental practice increasingly recognizes conservative treatments that do not encroach on natural structure. Words such as "biomodification" and "biomimetic" have been incorporated into the profession's vocabulary to best describe how dentists can successfully do no harm to the natural characteristics of teeth. Vital tooth bleaching can be considered as an example of biomodification. It is becoming a routine in many dental practices as it produces a conservative smile enhancement. It is minimally invasive and has been shown to alter the appearance of teeth from inside out resulting in an inherent intrinsic color change not through destructive or mechanical means [(44)].

Tooth discoloration varies in etiology, appearance, localization, severity and adherence to tooth structure. It may be classified as intrinsic, extrinsic and combination of both. Dietary chromogens and other external elements deposit on the tooth surface or within the pellicle layer either directly or indirectly to form extrinsic discoloration. Stains within the dentine or intrinsic discoloration often results from systemic or pulpal origin, while internalized stains are the result of extrinsic stains entering the dentine via tooth defects such as cracks on the surface[(45)].

The first reports of tooth bleaching occurred as early as 1877. However, the acceptance of tooth bleaching as non invasive conservative treatment increased during the past 30 years using heated, high concentration of hydrogen peroxide ranging from 25-35 percent [(48)].

Bleaching agents are provided for at-home or in-office therapies. At home bleaching is less expensive, but patient's collaboration is essential to