

CFAO Graduate Student Posterboard Abstracts

University of Manitoba

EFFECT OF BLEACHING ON SHEAR BOND STRENGTH OF FLUORIDE- RELEASING SEALANT

Phan X*, Akyalcin S, Bonstein T, Wiltshire W
University of Manitoba

Objective: The purpose of this study was to evaluate the effect of in-office with at-home touch up bleaching on shear bond strength of a fluoride-releasing sealant.

Materials and Methods: Eighty human molars were randomly into bleached and non-bleached groups. The bleached teeth were applied with 45% of Carbamide peroxide gel (Opalescence Quick, Ultradent, Utah) on the first application for half an hour, followed with five applications of 20% Carbamide peroxide gel in 24 hours interval. The teeth were then stored in artificial saliva at 37°C in incubator for two weeks before bonding. The teeth in both groups were either bonded using regular primer and Transbond XT (R) adhesive, or Pro Seal sealant (R) and Transbond XT adhesive, then stored in artificial saliva and subjected to shear-testing 24 hours after using a Zwick Universal Test Machine.

Results: In the non-bleached subgroups, the means shear bond strength were 18.00 ± 4.14 MPa and 19.22 ± 3.43 MPa for the regular primer and ProSeal, respectively. Meanwhile, in the bleached subgroups, the means shear bond strength were 21.96 ± 2.87 MPa and 22.61 ± 4.42 MPa for regular primer and ProSeal, respectively. The Kruskal-Wallis test indicated there was a significant difference between the four subgroups ($p=0.0011$). Further simple t-tests indicated that the differences were significant only between bleached and non-bleached subgroups

Conclusion: The 24-hour debonding results indicated that enamel in-office bleaching with at-home touch up two weeks prior to bonding did not reduce the bonding strength of fluoride releasing sealant.

A RETROSPECTIVE CEPHALOMETRIC STUDY FOR THE ASSESSMENT OF RELAPSE IN DEEP BITE PATIENTS

Pollard D*, Akyalcin S, Wiltshire W, Blight N, Rody W
University of Manitoba

Introduction: Deep-bite malocclusion is one of the most challenging problems faced by orthodontists mainly because of the high relapse tendency. Therefore, it is of utmost importance to determine the morphological characteristics of the individual patient in order to minimize such tendency.

Study Purposes: Three groups of Orthodontic patients separated by vertical facial type were analyzed in order to (1) evaluate the amount of deep bite relapse (2) determine the associations of various parameters with the relapse of deep-bite malocclusion.

Methods: The sample consisted of the records of 60 orthodontic patients treated at the University of Washington that presented with pre-treatment incisor overbites of 50% or greater. Subjects were categorized into three groups according to their pre-treatment cephalometric values for Y-axis, MPA, and Lower Facial Height (Ricketts), which yielded 28 mesocephalic, 16 dolicocephalic, and 16 brachycephalic subjects. Data was collected by measuring casts and performing cephalometric analysis at three timepoints: T0 (pre-treatment), T1 (post-treatment), and T2 (10 year post-retention).

Results: Dolicocephalic subjects showed the least amount of deep-bite relapse (0.13 mm or 5.9%) compared to brachycephalic (1.2 mm or 36%) and mesocephalic (1.4 mm or 53%) subjects.

Implications: Orthodontists may want to consider accounting for this added relapse by overcorrection of overbite in patients determined to be at a higher risk.