Effect of Post-brushing Mouthwash Solutions on Salivary Fluoride Retention — Study 1

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Abstract

• **Objective:** The aim of the present study was to evaluate the effects on post-brushing salivary F retention of rinsing with mouthwashes containing either 500 or 225 ppm F compared to not rinsing.

• **Methods:** The study was a randomized, investigator-blind, cross-over trial with three treatment arms. Thirty volunteers brushed with 0.5 g of 1450 ppm F paste for 40 seconds and then spat out the waste slurry. They then rinsed for one minute with 10 mL of their allocated mouthwash or they did not rinse after the brushing. Saliva samples were collected before brushing (0 minutes) and at one, three, five, 10, 20, 30, 45, and 60 minutes after brushing. The subjects were not allowed to speak, eat, or drink during these 60-minute test periods. The F levels in saliva were then calculated for each time point and the integrated area under the curve calculated (AUC0-60).

• **Results:** The mean AUCs were 626, 380, and 237 for the 500 ppm F, 225 ppm F, and no rinse treatments, respectively, and all pair-wise comparisons were statistically significant (p < 0.01).

• **Conclusion:** It is concluded that rinsing with either 500 or 225 ppm F mouthwash significantly increases the level of F in saliva compared to not rinsing after brushing with 1450 ppm F toothpaste. The 500 ppm F mouthwash provided a significant increase in F retention compared to the 225 ppm F rinse (p = 0.001).

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