



Fluoride Rinse

Case Study

Case Study: Fluoride Rinse in Treatment of Radiation Induced Hyposalivation

The purpose of this study was to evaluate the effect of topical application of a 0.05% NaF mouthrinse used twice daily on de- and remineralization in the oral cavities of subjects suffering from radiation-induced hyposalivation. Study subjects (n=6) who were undergoing treatment for radiation induced hyposalivation and had previously used 1.1% self-applied NAF.

To evaluate the effect of the rinse on both remineralization and demineralization each participant wore a device fixed to the buccal surface of the maxillary molars which contained a section of sound enamel and demineralized enamel. Subjects were instructed to discontinue the 1.1% NaF gel they had been using one day before beginning the rinse protocol. The study protocol called for them to rinse with 0.05% NaF twice daily (morning and evening) for four weeks. They were instructed not to eat or drink anything for 30 mins after the morning rinse and until the day following the evening rinse.

Salivary flow rates, plaque pH profiles following a 10% sucrose rinse, *S. mutans* and lactobacillus counts, fluoride clearance, and enamel micro hardness were determined during the study. All subjects showed a marked decrease in salivary flow as compared to normal flow rates. No significant differences were detected in microflora from baseline until the end of the four week period. Of note are the findings that the demineralized



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enamel exhibited remineralization and the normal enamel did not show any demineralization. Thus the authors conclude that a 0.05% NaF rinse may enhance remineralization of enamel and prevent demineralization even in individual with compromised salivary flow rates.

References:

C. Meyerowitz, J.D.B. Featherstone, R.J. Billings, A.D. Eisenberg, J. Fu, M. Shariati and D.T. Zero. Use of an Intra-oral Model to Evaluate 0.05% Sodium Fluoride Mouthrinse in Radiation-induced Hyposalivation. J DENT RES 1991 70: 894