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*The Angle Orthodontist*: Vol. 63, No. 1, pp. 25–30.

## Comparison of three self-applied topical fluoride preparations for control of decalcification

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### ABSTRACT

The purpose of this study was to compare the effectiveness of a 1100 ppm fluoride toothpaste used alone, or together with a 0.05% NaF rinse used once daily or a 0.4% SnF<sub>2</sub> gel applied twice daily, in controlling the decalcification that often accompanies orthodontic treatment. Ninety-five consecutively treated adolescent patients were matched for age and sex and assigned to one of these three regimens. Single blind assessments of decalcification were performed on all labial surfaces of all erupted teeth before appliances were placed and 3 months after appliances were removed. Because the first molars had the highest decalcification scores, data for the whole mouth and for first molars were analyzed separately.

When pre-treatment levels of decalcification were subtracted from post-treatment values, significantly lower decalcification scores ( $p < 0.05$ ) were found for both whole mouth and first molars in the rinse and gel groups as compared with the control group (toothpaste alone). Although the gel group consistently had less decalcification than the rinse group, this difference only approached statistical significance. These results indicate that twice daily use of a 1100 ppm fluoride toothpaste and either a once-daily 0.05% NaF rinse or a twice-daily 0.4% SnF<sub>2</sub> gel provides additional protection against decalcification beyond that achieved with toothpaste alone.

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**KEY WORDS:** Topical fluorides, Decalcification, Orthodontic treatment.