

Effects of Paste/Gel Sequence on Post-Prophylaxis Stain, Calculus and Plaque

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Objectives: A randomized controlled trial was conducted to assess the effectiveness of a daily 2-step dentifrice and gel system to prevent stain, calculus and plaque after a dental prophylaxis. **Methods:** After IRB and consent, eligible adults with plaque and stain/calculus received a dental prophylaxis. After two weeks, baseline scores were used to randomly balance and assign subjects to daily oral hygiene with either 1) a 2-step system with 0.454% stannous fluoride dentifrice and 3% H₂O₂ gel (Crest® Pro-Health® [HD][™], Procter & Gamble) or 2) a 0.76% NaMFP dentifrice (Colgate® Cavity Protection, Colgate-Palmolive) control. Test products were dispensed blind to treatment in a kit with a regular soft brush and instructions for twice-daily at-home use for 10-weeks. Stain area and intensity (Lobene Index), mm of calculus (Volpe-Manhold Index) and plaque coverage (Rustogi Modification of the Navy Plaque Index) were measured before/after prophylaxis over a 12 week period along with clinical examinations to assess safety. **Results:** 49 subjects enrolled (mean age = 40.4 years) and 48 completed the 12 week study. Overall baseline (pre-prophylaxis) means (SD) were 0.27 (0.36) for composite stain, 6.9 (4.8) for calculus, and 0.66 (0.05) for plaque. After 4-weeks assigned product use, groups differed significantly ($p < 0.01$) on stain, calculus and plaque prevention, favoring the two-step group. After 10-weeks, only the two-step hygiene group showed no mean increase in stain compared to the immediate post-prophylaxis measures. In addition, stain, calculus and plaque accumulations were 73%, 59% and 31% lower in the two-step group versus control, with treatments differing ($p \leq 0.0002$) on all measures. **Conclusions:** In a randomized controlled trial, use of a two-step 0.454% SnF₂ then 3.0% H₂O₂ paste and gel sequence prevented stain, calculus and plaque accumulation after prophylaxis.

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