

## Reversal of Primary Root Caries Using Dentifrices Containing 5,000 and 1,100 ppm Fluoride

A. Baysan, E. Lynch, R. Ellwood, R. Davies, L. Petersson, P. Borsboom, *Caries Res* 2001; 35:41-46

### Abstract

This study compared the ability of two sodium fluoride dentifrices, one containing 5,000 ppm fluoride (Prevident 5000 Plus) and the other 1,100 ppm fluoride (Winterfresh Gel), to reverse primary root caries lesions (PRCLs). A total of 201 subjects with at least one PRCL each entered the study and were randomly allocated to use one of the dentifrices. After 6 months, 186 subjects were included in statistical analyses. At baseline and after 3 and 6 months, the lesions were clinically assessed and their electrical resistance measured using an electrical caries monitor. After 3 months, 39 (38.2%) of the 102 subjects in the 5,000 ppm F group and 9 (10.7%) of 84 subjects using the 1,100 ppm F dentifrice, had one or more PRCLs which had hardened ( $p=0.005$ ). Between baseline and 3 months, the  $\log_{10}$  mean  $\pm$ SD resistance values of lesions for subjects in the 1,100 F group had decreased by  $0.06 \pm 0.55$ , whereas those in the 5,000 ppm F group had increased by  $0.40 \pm 0.64$  ( $p<0.001$ ). After 6 months, 58 (56.9%) of the subjects in the 5,000 ppm F group and 24 (28.6%) in the 1,100 ppm F group had one or more PRCLs that had become hard ( $p=0.002$ ). Between baseline and 6 months, the  $\log_{10}$  mean  $\pm$ SD resistance values of lesions for subjects in the 1,100 ppm F group decreased by  $0.004 \pm 0.70$ , whereas in the 5,000 ppm F group, they increased by  $0.56 \pm 0.76$  ( $p<0.001$ ). After 3 and 6 months, the distance from the apical border of the root caries lesions to the gingival margin increased significantly in the 5,000 ppm F group when compared with the 1,100 ppm F group. The plaque index in the 5,000 ppm F group also significantly reduced when compared with the 1,100 ppm F group. The colour of the lesions remained unchanged. It was concluded that the dentifrice containing 5,000 ppm F was significantly better at remineralising PRCLs than the one containing 1,100 ppm F.