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3199 Effectiveness of four methods in preventing and arresting root caries

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OBJECTIVES: To compare the effectiveness of four methods in preventing new root caries and in arresting active root surface caries in elders. **METHODS:** This study was conducted on institutionalized elders aged 60-89 years in Hong Kong. The baseline examination took place in 21 elderly homes. Status of the elders' tooth roots was recorded. Elders having at least 5 teeth with exposed root and no serious medical problems were randomly allocated into one of four prevention groups: Group 1- oral hygiene instruction (OHI) only; Group 2 - OHI and three-monthly applications of sodium fluoride (NaF) varnish ; Group 3 - OHI and three-monthly applications of chlorhexidine (CHX) varnish; and Group 4 - OHI and annual applications of silver diamine fluoride (SDF) solution. Status of their root surfaces was assessed again after one year by a masked independent examiner. **RESULTS:** 306 elders were examined at the baseline. After one year, 246 elders (80%) were reviewed. The mean number of root surfaces with new caries found at the one-year review in Groups 1 to 4 were 0.72, 0.23, 0.55, and 0.16, respectively (ANOVA, $p < 0.05$). Elders receiving SDF or NaF varnish developed fewer new root caries lesions (Scheff's multiple-comparison, $p < 0.05$) than did the elders in other groups. The respective mean numbers of root surfaces with arrested caries at the review were 0.22, 0.31, 0.34, and 0.39 (ANOVA, $p > 0.05$). **CONCLUSIONS:** SDF and NaF varnish were found to be effective in preventing new root caries after one year. The differences between the effectiveness of the four methods in arresting root caries after one year were not statistically significant. The current study is still ongoing and further results will be reported later. **ACKNOWLEDGEMENT:** Study supported by the Hong Kong Research Grants Council (HKU 7244/02M).

[Seq #343 - Oral Health Outcomes](#)

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[Back to the Behavioral Sciences/Health Services Research Program](#)

[Back to the IADR/AADR/CADR 83rd General Session \(March 9-12, 2005\)](#)