

# HKU Faculty of Dentistry finds effective ways of preventing root decay among elders

A research team including three members of the HKU Faculty of Dentistry has found three methods of preventing root decay in elders that are more effective than merely giving oral hygiene advice.

The three treatment methods were application of silver diamine fluoride, chlorhexidine, and sodium fluoride (a common active ingredient in toothpaste). These methods had been demonstrated to prevent tooth decay in adults and children, but had not been fully tested in elderly people, who are known to be prone to root decay. Accordingly, the researchers (including [Professor Edward CM Lo](#), Dr John Dyson, and [Professor Esmonde Corbet](#) from the HKU Faculty of Dentistry) conducted a randomised controlled trial to test the effectiveness of the three chemicals in preventing root decay in 306 residents (average age, 79 years) in 21 elderly institutions and nursing homes in Hong Kong. Most of the teeth in the study participants had exposed roots because of receding gums.

The elders were given individualised instructions on brushing teeth properly and were randomly assigned to four groups. The three test groups received yearly applications of 38% silver diamine fluoride solution, applications of 1% chlorhexidine varnish every 3 months, or applications of 5% sodium fluoride varnish every 3 months on any exposed roots. The control (placebo) group received only yearly applications of water. After 3 years, 203 elders remained in the study. Those who were given one of the three test treatments developed significantly fewer new cases of root decay than the control group (reductions of 71%, 57%, and 64%). There were no reports of adverse effects or discomfort due to treatment.

Because the three treatments had similar effectiveness at preventing root decay, the authors recommend their use among elders in the clinic or community, in conjunction with promoting good oral hygiene. They also propose that “non-dental professionals, such as primary health-care workers, can be easily trained to apply the agents”, given their affordability, safety, and ease of use.

The research was recently published in the international peer-reviewed *Journal of Dental Research*.

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**Source:** Tan HP, Lo ECM, Dyson JE, Luo Y, Corbet EF. A randomized trial on root caries prevention in elders. *Journal of Dental Research* 2010;89:1086-1090. Medline link: <http://www.ncbi.nlm.nih.gov/pubmed/20671206>

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