

Dental caries prevention breakthrough

September 9 2015, by Pete Hodgson



Dr Carla Meledandri (Chemistry) and Dr Don Schwass (Oral Rehabilitation).
Photo: Sharron Bennett.

A new way to preserve caries-infected teeth and prolong the life of dental fillings has been developed at the University of Otago.

The technology uses specially-formulated, non-staining [silver nanoparticles](#), invented through a partnership between the University's Department of Chemistry and Dental School, to arrest caries and make teeth more resistant to decay. The dentist applies the product after removing decay but before filling, and it diffuses into the tooth where it can kill any remaining bacteria that may cause further decay.

The Otago invention is unique because it does not discolour the teeth. All other available products that use silver to arrest caries turn [teeth](#) black, and therefore, they have not been widely accepted by patients or dental practitioners.

"We believe that our non-staining formula will be an important step forward for oral care and public health," says Dr Don Schwass, Senior Lecturer and Prosthodontist in the Department of Oral Rehabilitation.

"The result will be that recurrent caries will be significantly reduced and [dental fillings](#) will last longer, providing both economic and health benefits."

"Our contribution has been to create stabilised nanoparticles of a certain size, using a unique method of production so that the end result is a clear, stain-free product," says Dr Carla Meledandri, Lecturer in the Department of Chemistry.

Otago Innovation Ltd has recently licensed the rights to this invention to a global dental materials manufacturer for further product development.

Provided by University of Otago

Citation: Dental caries prevention breakthrough (2015, September 9) retrieved 25 April 2024 from <https://medicalxpress.com/news/2015-09-dental-caries-breakthrough.html>

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