



THE AUSTRALASIAN ACADEMY OF
ANTI-AGEING MEDICINE

PRESS RELEASE FOR IMMEDIATE RELEASE

MORE DURABLE DENTAL FILLINGS

Enzymes may be the answer to more durable dental fillings, according to researchers at the University of Oulu.

Headed by Professor Leo Tjäderhane of the Department of Pedodontics, Cariology and Endodontology, the international collaborative team have investigated how certain enzymes called matrix metalloproteinases (MMPs) facilitate the deterioration of dental tissue over time.

The team found that human dentin contains the key MMP responsible for breaking down collagen, a major component of dentin.

The bonding of composite resins with dental tissues is achieved by the use of collagen bonds. And yet, the tooth's own MMPs are partially responsible for causing the bond between the filling and dental tissue to deteriorate. The breakdown enables bacteria to enter, causing additional tooth decay.

The team has successfully inhibited the activity of the enzymes, and as a result, has slowed down - and in some cases - prevented the breakdown of the bond completely.

Clinical trials have shown that dentists can easily inhibit MMP enzyme activity by using chlorhexidine, a substance readily available in all dental practices, to adhere the filling to the dental tissue. Research also suggests that MMP inhibitors might further slow tooth decay, although findings are based only on animal testing thus far.

The upcoming A5M 2009 Conference in Melbourne will feature world-renowned speakers in Anti-Ageing Medicine.

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