Professor unveils first data on new dental fillings that will repair tooth decay

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The first data on dental fillings that can actively repair tooth decay is presented by Professor Robert Hill. Professor Hill is Chair of Physical Sciences at the Institute of Dentistry at Queen Mary University of London and co-founder and director of research at BioMin Technologies.

Over 80 percent of the population in the UK has at least one filling, with seven being the average while eight million cavities are filled with

amalgam each year.

This data, indicating smart repair of tooth decay, prolonging the life of composite fillings and reducing the need for mercury based amalgams indicates a significant step forward in tooth restorative materials.

Professor Hill outlines how new bioactive glass composites are unique in their ability to release fluoride as well as the significant quantities of calcium and phosphate that are needed to form tooth mineral.

Professor Hill explains that while current dental fillings include inert materials, the data on the new bioactive glass composite shows that it interacts positively with the body providing minerals that replace those lost to tooth decay.

"Our scientists and dentists at Queen Mary University of London replaced the inert tooth filling materials with our new bioactive glass, explained Professor Hill. "Not only did this bioactive glass composite remineralize the partially decayed teeth, but it also creates an alkaline environment that discourages the bacteria that caused the initial decay.

"The new bioactive glass also fills in the gaps with tooth mineral thus preventing the oral bacteria which cause tooth decay from establishing themselves. Research in the US suggests this will potentially prolong the life of fillings and slow secondary tooth decay because the depth of bacterial penetration with bioactive glass fillings was significantly smaller than for inert fillings."

Richard Whatley the CEO of BioMin Technologies who has recently licensed the technology from Queen Mary Innovations adds "We plan to translate the remineralizing technology developed with the BioMinF toothpaste into restorative dental products. This is a really exciting development which is attracting interest from a number of commercial

companies."

He added, "There is also huge pressure to eliminate mercury based amalgam fillings by 2020 which is outlined in a host of international agreements. Using this type of bioactive glass composite to fill cavities eliminates the need to use mercury based amalgam by offering aesthetic white fillings which help heal the tooth."

Provided by Queen Mary, University of London