Researchers from the University of Sydney have found that tooth decay can be stopped, reversed and prevented without the traditional “drill and fill” approach that has dominated dental care for decades. Acknowledging the outcomes of the seven-year study, the researchers called for a general shift towards preventive measures in early caries treatment.

Developing a set of protocols that they called the Caries Management System (CMS), the researchers compared people who received traditional “drill and fill” treatment with those who received CMS treatment, focusing on prevention. The CMS protocols included the assessment of decay risk, the interpretation of dental X-rays and the specific treatment of early decay.

Among other things, preventive measures included the application of high concentration fluoride varnish to the sites of early decay and, on the patient’s side, restricting sugary snacks and beverages between meals.

In testing the CMS protocols on 1,000 patients from 22 general dental practices in New South Wales and Australian Capital Territory, decay risk was substantially reduced during the seven-year study.

Moreover, the need for fillings was 30 to 50 per cent lower among CMS patients in comparison to the control group. At 80 per cent, the reduction was even greater among those considered at a high-risk, patients who were getting as many as two fillings per year.

“This research signals the need for a major shift in the way tooth decay is managed by dentists,” said Associate Professor Wendell Evans from the University of Sydney. “A tooth should only be drilled and filled where an actual hole in the tooth is already evident,” he said.

According to Evans, tooth decay is not the rapidly progressive phenomenon that dentists long believed it was. Instead, it develops more slowly, leaving plenty of time for the decay to be detected and treated before it becomes a cavity and a filling is required. On average, it takes four to eight years for decay to progress from the tooth’s outer layer (enamel) to the inner layer (dentine), he explained.

The results of the study were presented in the article “The Caries Management System: Are preventive effects sustained post-clinical trial?” which was published online in the Community Dentistry and Oral Epidemiology journal on 7 December 2015.

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