modern hygienist

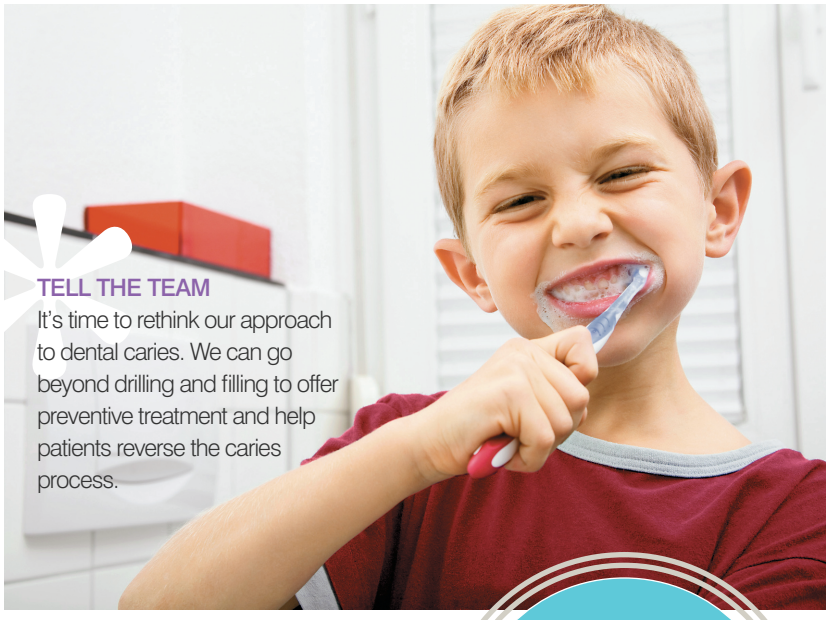
TIPS OF THE TRADE

Information to keep you and your team on the cutting edge of care.

Changing paradigms, modern methods

Replace the "drill and fill" standard with prevention protocol.

by Maria Perno Goldie, RDH, MS



TELL THE TEAM

It's time to rethink our approach to dental caries. We can go beyond drilling and filling to offer preventive treatment and help patients reverse the caries process.

Moving from the reparative to the preventive model in dentistry and dental hygiene, the focus is no longer on drilling and restoring existing lesions, but rather, on *preventing* cavities and halting the caries *process*.

The introduction of fluoride led many to believe that the incidence of dental decay would dramatically decrease, but unfortunately, it has not. Dental caries is now the single most common chronic disease in children; there are five times more children in the United States with untreated dental disease than with childhood asthma. This condition translates into more than 50 million missed school hours every year. Adults also are at risk for dental caries, because root caries has become a concern as people age.

These facts have led to a paradigm shift in the caries process and the initiation of minimally invasive care. Today's oral healthcare allows for the conservation of healthy tissue as we employ products that address the infectious nature of the caries process.

5 million

Estimated number of children with **dental problems so severe** that they have trouble eating, sleeping and learning.

REVAMPED VOCAB

The terms "caries" and "cavities" are often used synonymously, but as we learn more about this biological process, science tells us that the terms do not denote the exact same thing. The caries process is when particular bacteria—such as mutans streptococci and the *Lactobacilli* species—metabolize fermentable carbohydrates and produce acids. The resultant damage to the tooth is the actual cavity, or hole in the tooth.

These acidogenic bacteria are not themselves the cause for concern, but rather, the acids they produce from breaking down the carbohydrates. The acids created by the bacteria enter the enamel or dentin and soften the minerals that make up the tooth structure, the hard tissues comprised of many minuscule crystals. The mineral involved is termed a carbonated hydroxyapatite.[1] If the breakdown of the mineral is not stopped or reversed, a small lesion may develop into a cavity.[2]

The process by which a dental carious lesion occurs is referred to as demineralization, or loss of mineral from the tooth. The aim of oral healthcare professionals is to prevent this, and if it has already occurred, correct it. In the old model, the only option was to prepare and fill the lesion. With the new model, the focus is on a reparative process that includes less drilling and more remineralization. It means getting to the *cause* of the infectious, transmissible disease, instead of just treating the symptoms.

Caries management by risk assessment (CAMBRA) has become the new standard. CAMBRA is implemented in two stages: Assessing each individual's distinctive caries risk (caries risk assessment), followed by proposals to the individual for minimally invasive, tooth-preserving treatment interventions.

1. Featherstone JDB. The Caries Balance: Contributing Factors and Early Detection. J Calif Dent Assoc. 2003 Feb;31(2):129-33.
2. Berkowitz RJ. Acquisition and transmission of mutans streptococci. J Calif Dent Assoc. 2003, Feb;31(2):135-8.