

Problem solvers Article 2---Tooth Decay synonyms: rotten tooth, tooth decay, caries, carious lesion.

Dental decay is a condition that all people are concerned about when they go to the dentist. The all too familiar phrase of “look mom, no cavities” is being heard less and less as sugar laden soft drinks, energy drinks, and juices are becoming prevalent in school vending machines to the exclusion of milk and water. All of the drinks that have high fructose corn syrup, glucose, sucrose, maltose, and fructose are all guilty of contributing to tooth decay. The rotting of the tooth structure results in a soft, brown, mushy area which must be removed or it will get larger and spread to the underlying nerve of the tooth. Dental decay will lead to tooth aches, pain, and the need to perform root canals (removal of the nerve) if left unchecked.

Teeth are covered with the hardest substance in the body-enamel. In order for decay to occur the bacteria present in everyone’s mouth must be exposed to sugar. The bacteria eat the sugar and produce acid. This acid, if not removed by brushing and flossing, will demineralize the enamel matrix, make the tooth soft which is called a “carious lesion” or cavity.

How are cavities detected?

- Explorers are sharp probes, which can detect soft areas in the deep pit and fissures of the enamel. The dentist will push on these areas and if the explorer sticks, there is a cavity.
- Caries detecting lasers: These are devices that will send a laser through the enamel matrix and bounce the energy back to the sensor. The amount of energy absorbed is compared to the bounced back energy and determines the severity and depth of the decay numerically.
- Caries detecting stains can flood the tooth and be absorbed by the soft lesion causing it to look a different color.
- Trans-illumination or shining a light on the cavity can allow it to be visualized; as it looks different from normal tooth structure and will appear to be a shadow or brown spot.

What should I do if I get a cavity? Problem list:

- Prevention: The first key is prevention. Decrease sugar consumption and drink milk and water. Limit sugar drinks and juices as well as candy and starchy snacks like potato chips that will break down into sugars as well. Use a Fluoride containing toothpaste and a prescription strength fluoride supplement to decrease future decay. Some products on the market such as MI paste have actually been proven to re-mineralize areas of preliminary decalcification or early cavities.
- Don’t linger: Have the dentist fill the tooth quickly so it doesn’t expand and reach the nerve. Small cavities may be treated over weeks or months but

deeper cavities should be filled right away.

- Sensitivity: Realize that sensitivity after a filling doesn't mean the nerve has died. When fillings are done there can be a period of time where the tooth may be a bit more sensitive to hot and cold. If this doesn't subside in a day or two, see your dentist, as your filling might be "high". Fillings that are not adjusted properly can be "high" which means you hit them prematurely and this can cause sensitivity and may lead to the tooth breaking. Adjustments are made with a fine drill and are then polished.
- Pain after fillings: If there is lingering pain to hot or cold and it lasts more than 6 or 7 seconds, the tooth might be dying and then the nerve of the tooth would be removed in a painless procedure called a root canal. Dentists may prescribe antibiotics when there is pain or swelling prior to performing a root canal visit so ask them if these are necessary.
- What's next? When the size of a filling is greater than 50% of the width of the tooth it may be more susceptible to fracture. The dentist may recommend that the tooth receive a "cap" or crown to cover and reinforce the remaining tooth structure.
- Types of fillings: Dentists can discuss the materials used to fill a tooth with you. The longest lasting filling material used primarily for back teeth is gold. There are silver fillings called amalgams that are a metal paste that have silver, mercury, zinc and other components, which get hard after they are placed in the tooth. The most popular filling material is white and is called a composite resin or "bonding". This material bonds chemically to the surrounding tooth structure. Porcelain fillings are also used to fill cavities and they are white and are fabricated in the office or at a lab and are cemented into the tooth.