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Dental cavities

Dental cavities are holes (or structural damage) in the teeth.

Causes

Tooth decay is a very common disorder. It most often occurs in children and young adults, but it can affect anyone. Tooth decay is a common cause of tooth loss in younger people.

Bacteria are normally found in your mouth. These bacteria change foods, especially sugar and starch, into acids. Bacteria, acid, food pieces, and saliva combine in the mouth to form a sticky substance called plaque. Plaque sticks to the teeth. It is most common on the back molars, just above the gum line on all teeth, and at the edges of fillings.

Plaque that is not removed from the teeth turns into a substance called tartar, or calculus. Plaque and tartar irritate the gums, resulting in gingivitis and periodontitis.

Plaque begins to build up on teeth within 20 minutes after eating. If it is not removed, it will harden and turn into tartar (calculus).

The acids in plaque damage the enamel covering your teeth. It also creates holes in the tooth called cavities. Cavities usually do not hurt, unless they grow very large and affect nerves or cause a tooth fracture. An untreated cavity can lead to an infection in the tooth called a tooth abscess. Untreated tooth decay also destroys the inside of the tooth (pulp). This requires more extensive treatment, or possibly removal of the tooth.

Carbohydrates (sugars and starches) increase the risk of tooth decay. Sticky foods are more harmful than non-sticky foods because they remain on the teeth. Frequent snacking increases the time that acids are in contact with the surface of the tooth.



Symptoms

There may be no symptoms. If symptoms occur, they may include:

- Tooth pain or achy feeling, particularly after sweet or hot or cold foods and drinks
- Visible pits or holes in the teeth

Exams and Tests

Most cavities are discovered in the early stages during routine dental checkups.

A dental exam may show that the surface of the tooth is soft.

Dental x-rays may show some cavities before they can be seen just by just looking at the teeth.

Treatment

Treatment of cavities can help prevent further tooth damage.

Treatment may involve:

- Fillings
- Crowns
- Root canals

Dentists fill teeth by removing the decayed tooth material with a drill and replacing it with a material such as composite resin, glass ionomer, or amalgam. Composite resin is the preferred material today, as it more closely matches the natural tooth appearance, and is also strong enough to use anywhere in the mouth, including the back teeth, where the majority of chewing takes place.

Crowns or "caps" are used if tooth decay is extensive and there is limited tooth structure, which may cause weakened teeth. Large fillings and weak teeth increase the risk of tooth fracture. The decayed or weakened area is removed and repaired. A crown is fitted over the remainder of the tooth. Crowns are often made of gold, porcelain, or porcelain fused to metal.

A root canal is recommended if the pulp is exposed to bacteria, or if the nerve in a tooth dies from decay or injury. The center of the tooth, including the nerve and blood vessel tissue (pulp), is removed along with decayed portions of the tooth. The roots are filled with a sealing material called gutta percha. The tooth is filled, and a crown is needed in most cases to seal and protect the tooth afterward.

Outlook (Prognosis)

Treatment often saves the tooth. Treatment is less painful and less expensive if it is done early.

You may need numbing medicine and prescription pain medicines to relieve pain during or after dental work.

Nitrous oxide with local anesthetic or other medicines may be an option if you are afraid of dental treatments.

Possible Complications

Dental cavities can lead to:

- Discomfort or pain
- Fractured tooth
- Inability to bite down on tooth
- Tooth abscess
- Tooth sensitivity
- Infection of the bone
- Bone loss
- Tooth loss

When to Contact a Medical Professional

Contact your dentist if you have any tooth pain, discomfort or see dark spots on your teeth.

See your dentist for a routine cleaning and exam if you have not had one in the last 6 months.

Prevention

Oral hygiene is necessary to prevent cavities. This consists of regular professional cleaning (every 6 months), brushing at least twice a day, and flossing at least daily. X-rays may be taken yearly to detect possible cavity development in high-risk areas of the mouth.

It is best to eat chewy, sticky foods (such as dried fruit or candy) as part of a meal rather than alone as a snack. If possible, brush your teeth or rinse your mouth with water after eating these foods. Limit snacking, since it creates a constant supply of sugars in your mouth. Avoid constant sipping of sugary drinks or frequent sucking on candy and mints.

Dental sealants can prevent some cavities. Sealants are thin plastic-like coatings applied to the chewing surfaces of the posterior teeth (premolars and molars). This coating prevents the buildup of plaque in the deep grooves on these surfaces. Sealants are often applied on the teeth of children, shortly after their molars come in. Older people may also benefit from tooth sealants.

Fluoride is often recommended to protect against tooth decay. People who get fluoride in their drinking water or by taking fluoride supplements have less tooth decay.

Topical fluoride is also recommended to protect the surface of the teeth. This may include a fluoride toothpaste or mouthwash. Many dentists include application of topical fluoride solutions (applied to the teeth) as part of routine visits.

Alternative Names

Caries; Tooth decay; Cavities - tooth

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