

Cracked Tooth Syndrome

Increase your chances of saving that cracked tooth!

Cracked tooth syndrome relates to a variety of symptoms and signs caused by a crack in a tooth. Early diagnosis and treatment of this condition are important to improve the chances of saving the tooth. However it is sometimes difficult to locate the problem tooth.

Cracked tooth syndrome is a common problem that affects teeth that have large fillings in them, and indeed some unfilled teeth. Decay and large fillings cause a weakening in the remaining tooth structure over time. A hairline fracture often develops at the bottom corner of the filling. The molar and premolar teeth are most commonly affected.

Grinding your teeth will cause a large increase in the stress and strain on your premolar and molar teeth increasing the risk of this condition.

The reason it hurts to bite when you have a cracked tooth is that your tooth is flexing which stimulates the nerve in the tooth. These hairline (microscopic) cracks open and close causing fluid to move inside the tiny tubules that make up the dentine of the tooth. This causes pressure on the tooth's pulp (nerve) resulting in pain. The pulp in the cracked tooth may also be exposed to bacteria and toxins that can enter the pulp through the crack. This causes the pulp to become inflamed making it sensitive. If the crack goes untreated it can spread and deepen like a crack in a glass and a part of the tooth may break off causing a need for root canal therapy or extraction.

Symptoms and signs of cracked tooth syndrome

- The tooth may be very sensitive to hot, cold and sweet stimulus.
- It is often difficult or impossible to locate exactly which tooth is the cause of the discomfort.
- The pain may occur upon release of biting pressure because the crack will close quickly causing pain.
- There is often a history of other similar situations.
- The crack may not be visible to the eye, or seen on a dental x-ray.
- There may be a gum pocket beside the tooth root surface if the crack extends below the gum margin.

Diagnosis of cracked tooth syndrome

The diagnosis can be difficult because often the symptoms are not consistent. The cracks are often not discovered until there are a variety of symptoms present. Your dentist may use the following processes for the diagnosis of your cracked tooth:

- Questioning about your dental history and present problem.
- Testing individual teeth with hot or cold items to identify the tooth producing the symptoms.
- Looking for
 - Signs of teeth wear
 - The bite between upper and lower teeth
 - Cracks of the surfaces of teeth
 - Large fillings with weakened cusp (the cusp is the pointed or raised part of the tooth)



Diagnosis and management of a cracked tooth is not always a simple task, and sometimes a number of visits and tests are required before treatment options can be offered.

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- Bite tests can be helpful in locating the pain. Your dentist will use an object to direct your biting pressure onto an individual cusp. This may help identify the offending tooth and cusp.
- X-ray examination may be used to rule out other possible causes of the pain such as decay. However the tooth crack will rarely be seen on an x-ray film.
- The removal of a filling in a suspect tooth may help your dentist identify the position of the crack, and sometimes its direction and extent. A coloured dye can sometimes be used in this situation to highlight the crack.
- Probing below the gum line may help identify an extensive crack.

Treatment for a cracked tooth

Early detection and treatment is important as developing cracks can be slowed down or stopped, increasing the chances that the tooth can be saved. The treatment required depends on the extent and position of the crack.

The treatment for most cracked teeth involves removing the weakened cusp and placing a large filling or crown on the tooth. If more than one cusp is cracked or weakened, a crown or overlay is the treatment of choice as this will help protect the other weakened cusps.

Sometimes before the crown or filling is placed, a stainless steel band and a sedative dressing are placed to see if the tooth pain can be stopped. If the discomfort continues your dentist may suggest the need for root canal treatment prior to the filling or crown being placed.

If the crack is a complex one that has lead to involvement and inflammation of the pulp (nerve) then root canal treatment will be required prior to crowning of the tooth. This may involve two or three additional appointments, and as with any treatment in complex situations, there is always a possibility that the treatment will not succeed. Sometimes your dentist will suggest that a referral to a specialist is required for treatment of a particular tooth.

If the crack is terminal (unable to be treated) then your dentist will recommend that removal of the tooth is the best treatment option.

Examples of cracked teeth.

