AUSTRALIAN DENTAL ASSOCIATION

Diagnosis of cracks in teeth

Diagnosis can be difficult and time consuming because symptoms are not consistent. Cracks can vary greatly in length and location. Often, cracks are not discovered until a variety of symptoms are present. Discomfort and pain can mimic other conditions, such as sinusitis, ear pain, headache, TMJ disorders, or orofacial pain. If a cracked tooth is suspected, your dentist will ask you questions about the sensitive tooth. Diagnosis may involve the following.

The examination

Your dentist may check for:

- signs of tooth wear
- your "bite", that is, the occlusion between the top and bottom teeth
- cracks on the surfaces of teeth
- large fillings with weakened cusps.

Bite tests

Bite tests are helpful in locating the pain. As pinpointing the pain is often difficult, your dentist may ask you to bite on a hard object that is focussed on one cusp. This will allow the dentist to localise your bite pressure to one tooth or part of the tooth. When you bite down on the part of the tooth that is cracked, or release the biting pressure, you may feel pain.

Probing of the gums

Your dentist may probe the gums all around the suspect tooth. This sometimes helps to assess the extent of the crack.

Radiographic exam (X-ray films)

The dentist may want to take an X-ray to rule out other causes of tooth discomfort, such as decay. Cracks in teeth do not show up on X-ray films. Cracks in the root may show up as a loss of bone around the cracked root or give the appearance of an abscess.

Removal of a filling

If the suspect tooth has a filling, your dentist may remove the filling. This will allow the dentist to determine if a crack is present and, if so, the extent and direction of the crack.

Some dentists use a magnifying device or an operating microscope to inspect the tooth.

Staining

To test for the presence of a crack, your dentist may apply a coloured dye to the:

- surface of the suspect tooth
- tooth cavity after the filling has been removed
- root of the tooth.

Transillumination

Your dentist may place a special light directly on the tooth surface.

If a crack is present, it will block the light. Teeth without cracks allow the light to shine through.

Temperature change

Your dentist may also use ice or hot or cold water to test which tooth is sensitive.

Treatment for a cracked tooth

Early treatment is important. Propagating cracks may be stopped or slowed down, improving the chance to save the tooth. Treatment depends on the extent and position of the crack. Despite the highest standards of dental care, it may not be possible to save a cracked tooth.

Simple crack: The treatment for most cracked teeth involves removing the weakened cusp and placing a large filling or crown (cap) on the tooth (see the ADA patient education pamphlet "Crowns and Bridges"). If more than one cusp is fractured or if the tooth is heavily restored, a crown is an effective treatment.

The crown protects the tooth and often prevents the crack from progressing. When the tooth is prepared for the crown and a temporary crown put in place, the pain usually subsides quickly.

Sometimes, before a crown or filling is placed, a stainless steel band is put in place with a sedative dressing to see if the tooth pain can be stopped. If discomfort stops, a filling or crown will then be placed.

If the discomfort does not stop, the dentist may suggest the need for root canal treatment (see the ADA patient education pamphlet "Root Canal Treatment").

Complex crack: If the crack has progressed to the pulp or has caused inflammation of the pulp, root canal treatment may be needed before the crown or filling is put in place. Root canal treatment requires two or three additional appointments.

If your dentist feels that your case is complicated and requires specialist treatment, the dentist may refer you to an endodontist or prosthodontist.

Untreated cracked teeth

The longer a simple cracked tooth is left untreated, the more likely it will become a complex crack. The pulp inside the tooth may die, and infection in the tooth may occur. It will then be necessary to perform root canal treatment or, in some cases, extract the tooth.

In severe cases, the tooth may split in half. In this case, the split tooth usually has to be extracted. A bridge, denture or dental implant may then be needed.

Prevention

- If you clench or grind your teeth (bruxism), particularly at night, a special night guard can protect your teeth. Your dentist can fit you with a night guard, also called an occlusal splint.
- Avoid chewing on hard objects such as ice, hard sweets, pens or pencils.
- Wear a protective mouthguard when playing contact sports.
- Practice good dental hygiene to minimise the need for fillings. (See the ADA patient education pamphlet "Home Dental Care", available from your dentist.)

Even with these precautions, teeth can still develop cracks.

COSTS OF TREATMENT

Ask your dentist for an estimate of the likely costs. Some people ask for an estimate that lists all fees for the complete treatment. Costs vary according to the extent of treatment. Extra costs may apply if complications occur and more treatment is needed. As the treatment and outcome may be different from what was first proposed, the final account may be different from the original estimate. It is best to discuss costs before and during treatment, rather than afterwards.

YOUR DENTIST

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