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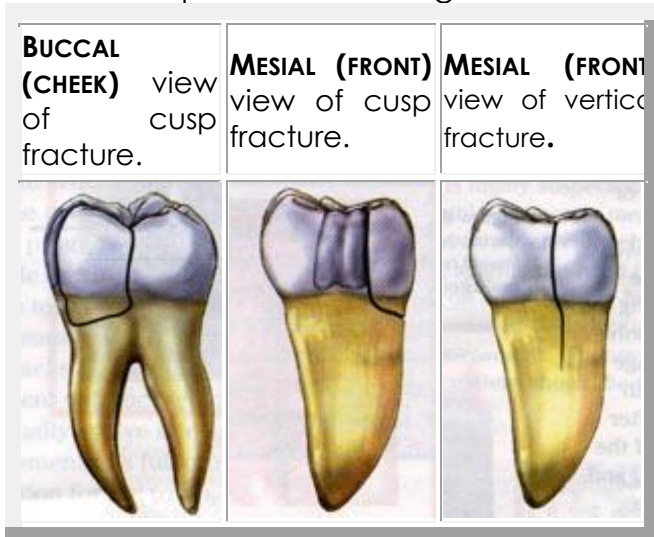
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WHAT IS CRACKED TOOTH SYNDROME?

Cracked tooth syndrome is exactly what the name implies, a tooth with a crack. This phenomenon is not quite that simple however. Teeth can crack in all different ways, craze lines, fractured cusps, cracked tooth, split tooth or vertical root fracture. Craze lines involve the enamel. Fractured cusps, split tooth and cracked teeth start on the outside of the tooth and extend down the tooth involving enamel, dentin and possibly the nerve (pulp). People today are not only living longer, but are keeping their teeth longer, because of this cracked teeth are becoming more common. The longer people keep their teeth the more likely they are to have necessary dental procedures (fillings, root canal therapy etc.) that leave the tooth more susceptible to cracking.



WHAT CAUSES TEETH TO CRACK?

1. Teeth can develop fractures for a number of reasons. From repetitive chewing on your teeth, day after day, teeth may develop cracks. Each time you chew on your teeth they flex slightly from the chewing force. This flexing over time can cause teeth to develop fine cracks (stress fractures).

2. A history of clenching or grinding (bruxing) teeth can result in cracks.
3. Chewing on hard substances or foods such as ice, popcorn kernels or candy.
4. Trauma to the mouth such as a blow below the chin or lower jaw.
5. Large fillings that are deep or that involve the contacts between teeth (inter proximal contacts), can weaken the teeth resulting tooth fracture.
6. It has been suggested that bone loss associated with periodontal disease can predispose a tooth to root fracture because of decreased support.

WHAT ARE THE SIGNS AND SYMPTOMS OF A CRACKED TOOTH?

- ⚠ The patient has a hard time describing the problem.
- ⚠ A history of erratic pain upon chewing (shock or jolt), especially upon release of biting pressure (disclusion).
- ⚠ Discomfort with extreme temperatures, especially cold.
- ⚠ Perhaps there is a history of the dentist relieving the bite by grinding on the tooth because of off and on pain.
- ⚠ Dental X-rays tend not to show anything wrong with the tooth
- ⚠ Some patients complain of a soreness while chewing.
- ⚠ If the crack involves the root there may be a localized periodontal pocket or defect.
- ⚠ If the cracked extends to the nerve, there may be signs of irreversible inflammation (irreversible pulpitis) which will lead to pulpal death and ultimately an abscessed tooth.

⚠ Sweet sensitivity with a lack of detectable decay clinically or on an x-ray.

NOTE: Depending on the size and location and direction of the crack the patient may experience any combination of these symptoms or perhaps others, making the diagnosis a frustratingly difficult one!

WHY DO CRACKED TEETH HURT TO CHEW ON?

Biting down on a tooth physically loads the tooth, stressing it, thus distorting its shape. This distortion disrupts the fluid within the crack. Upon release of biting pressure (disclusion) the fluid within the crack is driven towards the nerve chamber (pulp) eliciting pain. This phenomenon is unique to a crack and is a useful aid in diagnosis of the offending tooth.

WHY DON'T CRACKS SHOW ON DENTAL X-RAYS?

Rarely will a crack in a tooth show up in an X-ray. This is because the X-ray beam must be parallel to the crack in order to penetrate it. In some cases however other radiographic signs of a crack can be found besides actually seeing the crack itself. In some cases of a vertical root fracture, if the crack has been present long enough, vertical bone loss paralleling the root can be seen.

WHY DOES A CRACK HAVE TO BE TREATED?

Left untreated cracked teeth can result in pulpal necrosis (death of the nerve), and abscess (infection) requiring root canal treatment or extraction. In severe cases the tooth can actually split in two resulting in a non fixable tooth requiring removal.

HOW ARE CRACKED TEETH FIXED AND WHY?

The good news is that most cracked teeth can be retained long term, it should be noted however that a cracked tooth is a compromised tooth even with the proper treatment. The key

factor is to find the crack early on in its development. If caught early enough, with the proper treatment, cracks can be halted or at least slowed down allowing the tooth to be retained long term. If allowed to progress untreated, a cracked tooth depending on the direction of the crack, may become hopeless requiring removal. The treatment of a cracked tooth involves removing the affected cusp and placing a crown (cap) on the tooth to hold the tooth together preventing the crack from progressing. In cases where the crack involves the nerve chamber or has caused irreversible inflammation of the nerve, root canal treatment will be necessary prior to crown placement.

WHAT CAN I DO TO PREVENT CRACKED TEETH?

1. If you are a clincher or bruxer (grinder) of your teeth particularly at night time, then have a night guard (bruxing appliance made) to protect your teeth.
2. Do not chew on hard objects such as ice, hard candy (jaw breakers etc.) or pop corn kernels.
3. Wear protective mouth guards when participating in contact sports to protect your teeth.

Please note that any information contained in this leaflet is for educational purposes only and should be used in conjunction with discussions with your dentist.

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