

Cracked Tooth Syndrome (CTS) or Incomplete Coronal Fracture (ICF) Information

Do I have a cracked tooth or incomplete tooth crown fracture? Cracked teeth (Incomplete Coronal Fracture) are teeth that have structural cracks in the body of the teeth and are susceptible to fracture that may require extraction and/or cause intense sharp pain. Cracked teeth are usually diagnosed in one of 3 ways:

- **Sharp pain upon biting** (or upon releasing the bite) often associated with intense cold sensitivity that does not hurt when chewing is not occurring.
- **Visible cracks observed by dental staff** upon examination. Structural cracks often stop fiber optic light from passing through a tooth. Craze lines—superficial non-structural cracks—can appear concerning but usually do not stop fiber optic light from passing through a tooth.
- **Visible cracks discovered during tooth preparation.** Structural cracks are often discovered during treatment. When this occurs we usually show the crack to the patient with a video camera and discuss whether or not a crown treatment may be appropriate.

If you have been diagnosed with one or more cracked teeth. A cracked tooth may be sensitive to cold or sweets, or cause a sharp pain upon biting. Often, you must bite just right (or just wrong) to cause the pain. Your tooth may or may not have a visible crack line. Sometimes this crack line can be seen using fiber optic trans-illumination, actually creating a shadow in the structure of the tooth. Radiographs (x-rays) often show a normal appearing tooth. Some crack lines become visible to the dentist when a filling preparation is done, but are not yet symptomatic. Patients with a cracked tooth will often have additional cracked teeth over time.

Diagnosing the severity of a cracked tooth is impossible clinically. Therefore, you must know all of the potential problems and treatments associated with cracked teeth. Clinical experience has shown that most cracks in teeth are superficial. More complex cracks will involve the dental pulp (nerve) or propagate into the root below the gum line or bone supporting the tooth.

Treatment of approximately 80% of the cracks is uncomplicated and uneventful. Treatment of complex cracks is unpredictable. *The tooth may require extraction even after difficult, complex, and expensive treatments.*

Most cracked teeth are treated successfully with a build up filling and a crown restoration. After initial crown preparation treatment the tooth will need to be monitored by you. After a few days you should be able to chew without pain on the temporary crown. This test allows us to complete your crown with a strong, but not absolute, prediction of success.

If the tooth remains symptomatic in the temporary the next step is to perform a root canal and then strengthen the interior of the tooth with a bonded build-up filling in the root canal access. This often alleviates the symptoms in teeth that were symptomatic in the temporary. Should this treatment be unsuccessful, it is most likely the tooth will be extracted and replaced with an implant or fixed bridgework. These failures are impossible to predict in advance.

Alternatives to this treatment sequence are to extract the offending cracked tooth and replace it with an implant and implant crown or bridgework. These alternatives are generally more expensive than the above treatment sequence, but definitively treat the cracked tooth by extraction. **Usually a decision must be made to continue or discontinue the treatment sequence when the tooth is symptomatic in the temporary crown.**