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Cracked Tooth Syndrome

What is a cusp?
Cusps are the little moutain peaks on top of the back teeth. A cracked cusp happens when one piece of the tooth starts to split off, often without falling off.

Why do teeth get cracks?
Cracked cusp syndrome is a very common problem, usually affecting teeth that have large fillings. The decay and subsequent filling causes a weakening of the remaining tooth structure. Like all materials, teeth are subject to stress fatigue. After many bites on the tooth (stress cycles), a hairline fracture can develop, usually at the bottom corner of the cavity.

Does grinding my teeth make it worse?
Yesé almost every person will at some time in their life grind their teeth. It is a very common habit. Unknown to you, grinding at night causes a massive increase (200-300%) in the stress and strain on your teeth, especially if you have worn down the canines and lost the protective effect they can give in sideways grinding jaw movements. You may also have unlucky tooth anatomy (genetic) or worn down fillings, where the ñvalleysò on top of the teeth are deep, not shallow. This puts a lot more sideways splitting forces on the cusps during chewing, leading to cracking. Even unfilled teeth can get cracks.

Why does it hurt to bite?
As the tooth flexes microscopically, the nerve is stimulated via tiny tubes (tubules) which are situated in the inner core of the tooth, below the enamel. The tubules run down to the nerve and the fluid moves in them, which you feel as sharp pain.

Why does it sometimes hurt to hot and cold?
The nerve is aggravated by the crack and by the bacteria being pumped into it via the tubules. It becomes inflamed because of the toxins in the bacteria. A classic symptom of nerve inflammation is hot and cold sensitivity.

If I do nothing what eventually happens?
The crack continues to slowly propagate like a crack in glass. Sometimes the crack goes off to the side and a fragment of the tooth breaks off. The crack can also go deep into the root and at times right into the nerve. Teeth can often go for months in a stable, yet inflamed condition. Sometimes they seem to get better only to suddenly get worse. It is hard to predict the course of the untreated tooth, but it usually is a slow downhill slide as the crack deepens. It is not a good idea to leave it, because a small crack can be treated effectively, but a bigger one can lead to root canal treatment or extraction if you are unlucky.

What is the best way to treat Cracked Tooth Syndrome?
Unless the crack is immobilized and splinted together the tooth is very likely to deteriorate. Although various methods have been employed in an attempt to stick the crack together, chewing forces are extremely powerful, and these ñpatch upò solutions are fairly unpredictable and ineffective. The only real solution is to bind the whole tooth together with a ñcapò or ñcrownò, so that any chewing forces move the tooth as a whole, rather than splitting it apart.

Can you guarantee that the nerve will recover?
No! Despite the best treatment about 10% of cracked teeth have nerves that go on to die. The tooth can still move slightly within the bone and this slight movement can flex the crack from underneath despite the crown on top. Sometimes the existing bacterial damage is so substantial, the tooth goes on to die regardless of what we do. Early treatment is therefore recommended to minimize the size of the crack and bacterial invasion.