

FRACTURED TOOTH SYNDROME

In the interest of understanding what is happening to your tooth and what treatment may be required, it is very important that you read every word of this information sheet.

HOW DOES IT HAPPEN?

Fractured Tooth Syndrome (FTS) is a very common problem, usually affecting teeth that are heavily filled. This is because decay and subsequent filling of a tooth results in the weakening of the remaining tooth structure. Like all materials, teeth bend and flex when they are used, which can lead to stress fatigue. After many bites on a tooth (stress cycles) or a very heavy bite, a hairline fracture (crack) can develop, usually underneath a filling.

WHY DOES IT HURT TO BITE ON?

As a tooth flexes, microscopically the nerve is stimulated via tiny tubules in the inner core of the tooth (dentine), which run down to the nerve. At the same time, bacteria may be pumped down a crack via the flexing action of chewing so that the nerve becomes inflamed. A classic symptom of nerve inflammation is hot and cold sensitivity and pain when biting.



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WHAT HAPPENS EVENTUALLY IF I DO NOTHING?

The nerve can be killed by bacteria, leading to a persistent ache in the tooth, as it dies, usually moderate to severe in pain intensity. The dead nerve becomes infected and this infection in the nerve can then spread into the bone underneath, causing an abscess. The crack continues to slowly propagate (spread) like a crack in glass. Depending which way the crack runs, it may reach the nerve or go off to the side and result in a fragment of tooth breaking off. It is hard to predict the course of an untreated crack, in some cases it may even seem to get better. The reality, however, is that cracks tend to deepen. It is important to remember that a small crack can be “fixed”, but a bigger one can lead to root canal therapy and crown or indeed it may even require extraction.

Remember you chew and bite hundreds of times a day, 365 days a year, inducing stress in your teeth.

HOW DO WE TREAT CRACKS?

Cracks/fractures cannot be seen on x-rays. Cracks can only be seen visually, and like a crack in the pavement, it is impossible to know where it runs into the tooth. It may be deep or shallow; it may run toward the nerve or the edge of the tooth. The question of “will I need a crown or root canal?” is determined by the crack. The answer to the question can only become clear as each treatment is performed, and its success is assessed. The treatments described outline the logical order in which the cracked tooth can be treated. If the first treatment is not successful, then we must progress to the next. In simple terms, we need to immobilise the crack against the powerful chewing forces. This binding together

of the crack is achieved using the most conservative method available.

TOOTH COLOURED FILLING

If your dentist has judged your crack/fracture to be minor in nature, then it may be possible to try holding it together with a “tooth coloured” filling. Unlike silver fillings, these stick to the tooth and tend to hold them together. The advantage of this treatment is that it is less expensive and less time consuming than other options. The disadvantage is that in a few cases, it is not “sticky” or strong enough to bind the crack together.

CROWNS (CAPS)

If you have a more severe crack, or a tooth coloured filling has failed to eliminate your sensitivity, then your dentist will probably recommend crowning the tooth. Unlike fillings, which can act as wedges splitting teeth a crown holds a tooth together from the outside and is very effective at binding a crack together. A crown can be either tooth coloured or metallic gold (depending on your preference) and this choice may be discussed with you. A crown is bonded over the entire tooth. This seals all micro-cracks and sources of bacterial leakage, giving the nerve its best chance of recovery.



ROOT CANAL THERAPY (RCT)

Despite the best treatment, about 10% of fractured teeth have cracks that are not completely steadied by

the crown. The tooth can still move slightly within the bone and this slight movement can flex the crack from underneath despite the crown on top. Also, sometimes the damage to the nerve is so severe the nerve dies regardless. Early treatment is therefore recommended. If you require RCT, then your dentist will need to remove the dead or dying nerve from the tooth before the inside of the tooth is cleaned and sealed. (See RCT info sheet). While this treatment can be performed through a crown, it is better done through a temporary crown. For this reason, please call the practice if discomfort persists more than a few days after placement of a temporary crown.

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EXTRACTION

In very rare cases, discomfort associated with biting on the tooth persists. If this is the case, then the crack extends into supporting tissues around the tooth known as the periodontal ligament. There is no other treatment but extraction for these teeth. If the tooth must be removed there are numerous options for replacing the space, which will be discussed with you. However, in general Dental Implants are the best long-term solution to replacing a missing tooth.