

## Dental Caries (Tooth Decay)



### Information for Patients

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## Dental Caries (Tooth Decay)

### What is Dental Caries?

Dental Caries is the decay or rotting of the tooth structure resulting in the formation of cavities.

### What causes Dental Caries?

Tooth decay is caused by a combination of refined sugar in the diet and bacterial plaque deposits on the teeth. The bacteria in the plaque act on sugar residues in the mouth to produce acids which cause breakdown of the tooth surface, invasion of the tooth by bacteria, and an eventual cavity.

The risk factors for dental decay are:

- Poor oral hygiene
- High sugar intake
- Susceptible tooth surfaces
- Reduced salivary flow

**Poor Oral Hygiene.** Lack of thorough cleaning of the teeth results in the plaque deposits remaining often for days at a time. Failure to remove plaque means more time for the plaque to react with sugar and cause damage to the tooth structure.

**High Sugar Intake.** It is not the actual overall amount of sugar that is important but the frequency of the sugar intake. For example, a whole bag of sweets eaten over a 20 minute period will mean there is sugar in the mouth for up to half an hour. However, the same bag of sweets, with one sweet eaten every 10 minutes over a three hour period, will result in sugar staying in the mouth for over three hours and a greater risk of damage to the teeth.

Sugar in tea/coffee, fizzy drinks, and sweets are obvious sources of sugar, but there are other, not so

obvious sources such as ketchup, fruit juices, and flavoured waters.

**Susceptible Tooth Surfaces.** Teeth are not smooth - they have pits and grooves, especially on the chewing surfaces. These areas can be difficult to clean thoroughly and can harbour plaque. Crookedness of the teeth also makes cleaning more difficult, and has a higher risk of decay. Exposed root surfaces due to gum recession are more likely to decay, because they have no enamel protection. Any other factor which makes thorough cleaning more difficult (e.g. fixed wire braces) will result in a higher risk of disease.

**Reduced Salivary Flow.** Saliva has a natural protective role in the mouth. It helps to neutralise dietary acids quickly, reducing the time that the teeth are exposed to their harmful effects. Its mineral content repairs the damage to the surface of the tooth caused by acids. It provides a protective coating for the teeth boosting their resistance to disease. A reduced salivary flow means less natural protection of the teeth and a greater risk of decay. A reduced flow can be caused by smoking, some medications (e.g. blood pressure tablets and some antidepressants), illnesses (e.g. Rheumatoid Arthritis), and radiation of the head/neck area which results in damage to the salivary glands.

### What are the symptoms of Dental Caries?

Tooth decay usually only causes pain once it has progressed deep into the tooth, close to the nerve. Pain is a late sign - the hard tissues of the tooth can decay for many months without causing any discomfort. When pain does eventually occur, it is often a sensitivity to cold or sweet foods at first. If the decay is not treated, this will progress to a more constant tooth ache as the nerve of the tooth is attacked.

Sometimes patients will see or feel a hole or food trap on or between teeth. They may notice a dark spot on the tooth surface, or a tooth may break or crumble under chewing forces. These are also symptoms of decay.

### **How can I prevent my teeth from decaying?**

Prevention of tooth decay is achieved by eliminating the risk factors for decay as much as possible.

1. Brush your teeth thoroughly twice per day with a Fluoride toothpaste, and floss once per day. This removes the plaque; no plaque - no decay. However, plaque is constantly forming on our teeth, beginning within minutes of brushing, so cleaning needs to be done regularly.
2. Keep the frequency of intake of sugary foods and drinks to as low as possible, preferably confining their intake to mealtimes only. The hours between meals will allow the teeth to 'self-repair' in the absence of sugar.
3. Visit your Dentist regularly - your dentist will give you appropriate advice on prevention, specific to your risk factors. He/she can detect decay in its very early stages, long before you become aware of it, and can treat it simply.

### **My Dentist has diagnosed decay in my teeth, how will it be treated?**

First your dentist will try and establish why you have decay and give you advice on what you need to do to prevent decay happening again. He/she will then clean the decay from the tooth and assess the remaining healthy tooth structure. Your Dentist will then advise you on the most appropriate type of restoration required to restore the tooth to its correct shape and strength.

### **What will happen if I do not have my decay treated?**

If your decay is not treated, the disease will progress further into your tooth, destroying its structure and weakening it. It will eventually cause you pain as the nerve is attacked. If the decay is very advanced, your tooth may require root canal therapy or even extraction. The disease may also spread to adjacent teeth, with similar consequences.

If you have a high frequency of sugar intake, the disease spread will be more rapid. The more extensive the decay, the more work required to repair the damage caused by it. It is best to treat the disease as soon as possible to prevent further damage.



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