



Carnegie Dental Group

## **DECAY**

A tooth's structure is composed of a framework of strong collagen fibres around which is deposited the crystalline minerals of the teeth.

A balance exists between the minerals contained in the saliva (which is saturated with calcium salts) and the tooth structure. Thus if a small amount of mineral is dissolved out of the tooth, calcium crystals will tend to be deposited back into the tooth via the saliva. A fine balance exists within your oral cavity and is altered by numerous factors.

The incorporation of Fluoride changes this balance so that the tooth is stronger and more resistant to decay. Each time you brush your teeth with a fluoride toothpaste or drink tap water which contains fluoride it becomes incorporated into the tooth structure and helps retain the mineral content of the tooth.

The mineral content will begin to dissolve away from the supporting framework when the pH (acidity) of the tooth drops below 5.5, dental decay supervenes and a hole forms.

Fizzy lemonades range in pH from 3.8 – 2.4, Coca Cola being the worst offender. Fruit juices with added preservatives have a pH < 3.8 in order to prevent bacterial contamination and prolong shelf life. These drinks lower the pH of the saliva bathing the teeth, leading to demineralization and dissolving of tooth structure.

Dental caries is formed as the bacteria in plaque reacts with sugars in the diet to create an acidic environment at the tooth surface which dissolves the minerals out of the tooth. The acidity of plaque can drop as low as pH 2.5.

In order to prevent decay –

1. Remove plaque regularly
2. Reduce dietary sugar exposure
3. Enhance fluoride exposure