

# 《Healthy Teeth and Fluorine》

~Fight cavities by brushing daily and using fluorine treatment!~

## ●Why do cavities occur?

Tooth cavities are the result of interactions between “tooth enamel”, “food” and “cavity-inducing bacteria” accumulating over time.

**Adding Fluorine and fighting cavities**

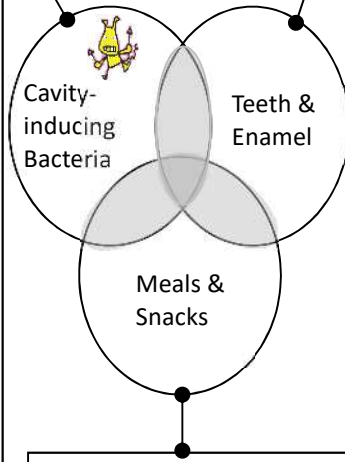
## The 3 Pillars of Cavity Prevention

### Brushing your teeth

Make sure to brush their teeth after meals and before bed.

As young children may not be able to do a good job on their own, make sure an adult checks in and helps them out.

If your child doesn't like being helped out, work from the back teeth to the front. As the front teeth have a connection to the lips, many children dislike contact from a toothbrush there; gently using your finger on these teeth is enough.



### Adding Fluorine

Fluorine helps make teeth stronger, remove cavity-inducing bacteria, and generally helps prevent cavities from forming.

Fluorine treatments, as well as fluoride-added toothpastes and mouthwash are commercially available.

### A balanced diet and smarter snacks

- ① Make sure your child learns to chew well
- ② Avoid sweets where possible
- ③ Give snacks at a fixed time

After eating or drinking sweet food or drink, or when snacking throughout the day, cavity-inducing bacteria build over time, leading to an increased risk of cavities forming.

### ① Fluorine Treatment

Direct application of fluoride to teeth via brushing or cotton ball. Has a fluoride concentration of 9,000ppm.

These treatments are performed by dentists or dental hygienists. 3-4 treatments per year is said to be most effective.

### ② Fluoride-added toothpaste

Has a fluoride concentration of 1,000ppm. Brushing with this toothpaste daily is said to have the same effect as ① above.

### ③ Fluoride-added mouthwash

Wash 5-10ml of 250-900ppm fluoride-added mouthwash around and over the teeth for 30 second - 1 minute before spitting out. This is effective for children 4 years of age that can do this well on their own, up until all adult teeth have come through around middle school age.

## ●So, what is Fluorine?

### Fluorine Content (in units ppm)

Black Tea 0.5~1.0	Beer 0.8	Green Tea 0.1~0.7	Carrots 0.5	Potatoes 0.8~2.8
Salt 25.9	Sugar 1.7~5.6	Miso 0.9~11.7	Daikon 0.7~1.9	Mandarin 0.3~1.1
Meat 2	Sardines 8~19.2	Shellfish 1.5~1.7	Apples 0.2~0.8	

Fluorine is a substance found in many parts of the natural world, including the earth, the ocean and river waters, as well as foodstuffs and the human body. It is tasteless and odorless. The average meal does not contain enough to protect from cavities!

## ●Is Fluorine safe?

While regular amounts of fluoride have nutritional benefits and help prevent against cavities, excessive consumption can be harmful, or even poisonous.

The total intake of fluoride over the course of a day when drinking 1L of water is 0.1 ppm. If, over the course of many years, this intake increases to 2ppm, enamel fluorosis may occur; at 8ppm, the risk of Osteomalacia increases (chronic poisoning). Additionally, a sudden intake of 2mg of fluoride per 1kg body weight (e.g. A 10kg child taking in 20mg of fluoride) can lead to nausea, vomiting and abdominal discomfort through sudden onset poisoning.

The amount of fluoride present in standard treatments given by a dentist, or when attending a dental checkup, are low enough to avoid these conditions. This is the same for normal usage of fluoride-added toothpaste or mouthwash.

### Regarding the unit used to measure the amount of fluoride in foods (ppm)

The unit “ppm” describes the proportion of a substance present per one million parts tested. For example, within 1kg of potatoes, 1mg of fluoride would be considered 1 part in one million, or 1ppm.