

Our teeth have come from this



Heavily-filled teeth from pre-fluoride days

Do we still need fluoride?

Currently the level of dental decay in 12-year-olds is at an all-time low. Fluoride in water supplies and toothpaste has been recognised as the key factor in reducing decay, and the slower progression of damage when it does develop.

However, sugar consumption in Australia is high and does not show any sign of going down. Without fluoride protection, the decay levels would go up and toothache and loss of teeth would increase.

to this



Present day mouth

Extra fluoride for special needs

...prescribed by your dental professional

#### Spit, don't rinse

Your dental professional may advise changes in your brushing/toothpaste frequency, or to simply spit out the toothpaste after brushing, without rinsing away your 'mini fluoride treatment'.

#### Fluoride supplements

Fluoride tablets and drops were originally introduced as a water fluoridation substitute for children in non-fluoridated areas. Supplements are now used in decay management for individuals who have a higher risk of decay.

#### Fluoride products for self-application

There are several products and methods for self-application of fluoride, and your dental professional will choose a treatment that is most suited to you. These may involve toothbrushing with a fluoride solution or a gel, applying gel in a tray, or use of a mouthrinse.

Products recommended for home use contain lower concentrations of fluorides compared with products which are professionally applied, but care should be taken to follow the treatment plan, and keep these products out of the reach of young children.

#### Professional application of fluoride products

Fluoride therapy may be applied by your dental professional in the dental surgery. These products will usually contain high concentrations of fluoride and will be used in circumstances where the patient is at a high risk of dental decay, and requires individual attention.

*Consult your dental professional before beginning to use additional fluoride products*

It's not too late for fluoride to make a difference

Even if you have decayed teeth with cavities that may need to be filled, fluoride treatment can help to stabilise and harden damaged areas of your teeth, so that the fillings may be smaller. There will also be less chance that fillings will need to be replaced.

#### Fluoride

- helps early decay to remineralise or recover
- strengthens the teeth against acid attack.

*For most people the greatest benefits will result from the use of low concentration fluoride products at more frequent intervals*

#### Further information

*can be obtained from the*

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THE UNIVERSITY OF ADELAIDE  
Colgate Caries Control Program

Decay Decay Decay

Prevention

## Fluoride protects your teeth

Fluoride has been used in dentistry for over 60 years to control decay. It has been recognised world-wide as the major factor responsible for the reduction in dental decay. Understanding how it works gives us the power to protect our teeth and to control most decay.

## Fluoride is present in your body naturally

Fluoride is widespread in rocks, soils and the sea, and all water contains some fluoride. Small amounts of fluoride are present in almost all foods.

Fluoride is normally present in the body, mostly in dental enamel and the bones. A low concentration of fluoride is also present in saliva.

## How does fluoride toughen your teeth?

### Before teeth erupt... it is built into the teeth

During the early years of life while teeth are developing, fluoride can be built into the structure of the tooth, causing the tooth to be more resistant to acid attack.

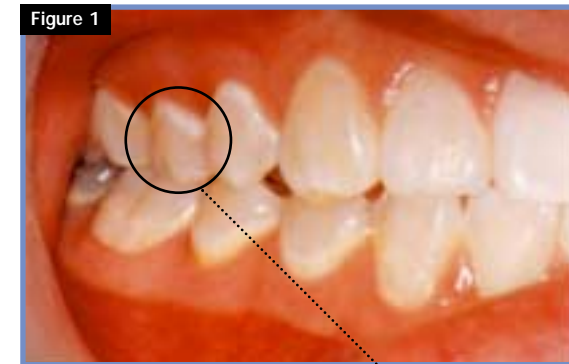
## After teeth erupt... at the tooth surface

After emerging through the gum, teeth are under attack from food acids every time you eat.

Fluoride protects and toughens the outer surface of your teeth throughout your lifetime.

### Fluoride can come from:

- water from a fluoridated mains supply
- toothpaste
- mouthwash or fluoride mouthrinse
- your saliva
- naturally occurring in foods and drinks.



Note the opaque white patches of early decay near the gums on almost every tooth.

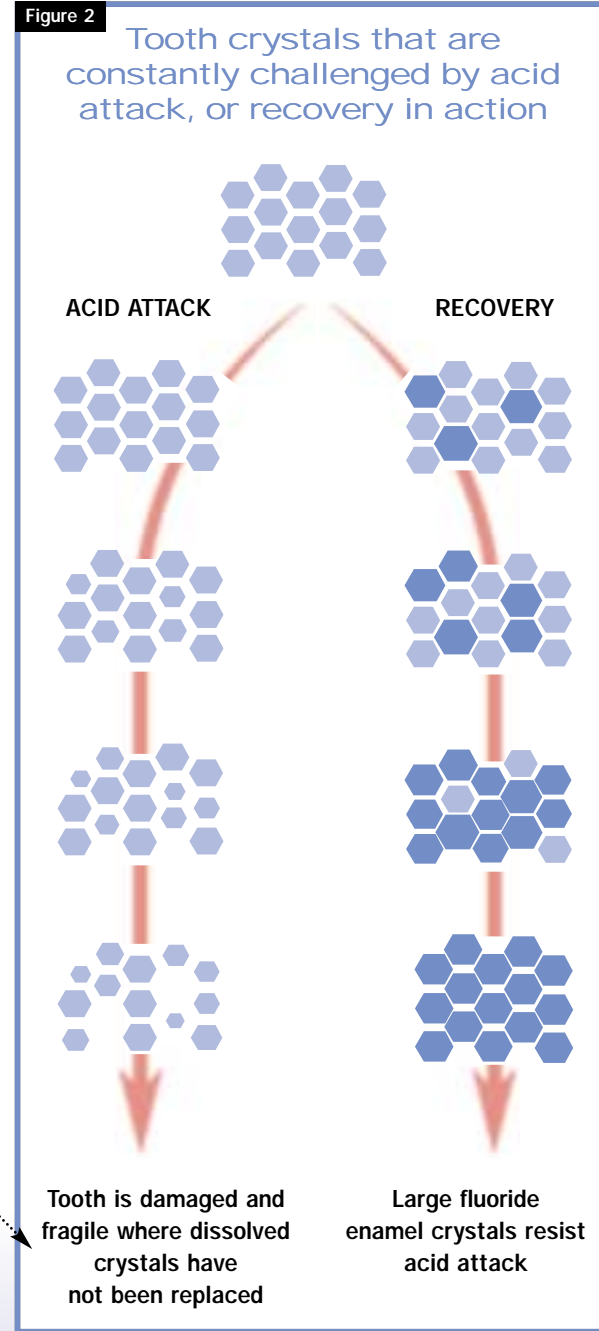
### 'Attack and recovery' follows every meal or snack

Teeth are attacked by:

- acid produced by plaque bacteria
- acidic foods and drinks.

Acids may penetrate well below the tooth surface, causing some tooth minerals to be lost.

Recovery (or remineralisation) will usually replace much of the tooth mineral lost.



## Fluoride

- helps the recovery (or remineralisation) process. Fluoride can be built into the recovering tooth, forming larger enamel crystals, which also are more resistant to acid attack.
- assists the teeth in resisting the acid attack at the tooth surface
- limits the growth of bacteria in the mouth.

Over time, acid can dissolve layers of tooth crystals below the surface. Opaque 'white spots' appear where the tooth is damaged and fragile, and become cavities if the acid damage continues.

'White spot' early decay, (seen in figure 1) can be reversed by reducing the acid attack and increasing the recovery process in the mouth.

Rebuilding the dissolved tooth crystals (figure 2) will be helped by fluoride. Decay already present can also be slowed or stopped, instead of progressing into bigger and bigger holes.

### Fluoride is used in dentistry for two reasons:

- to prevent decay
- to remineralise damaged areas of the teeth

Fluoride is available in water supplies in most capital cities in Australia, in most toothpastes, mouthrinses, tablets or drops used as dietary supplements, and in fluoride-containing gels and varnishes prescribed by dentists.

Regular low-level fluoride exposure of the tooth surfaces from water fluoridation and fluoride toothpaste is most effective in terms of prevention of decay.

Extra protection from other sources of fluoride is necessary when water fluoridation is not available, or when patients have a higher risk of decay.