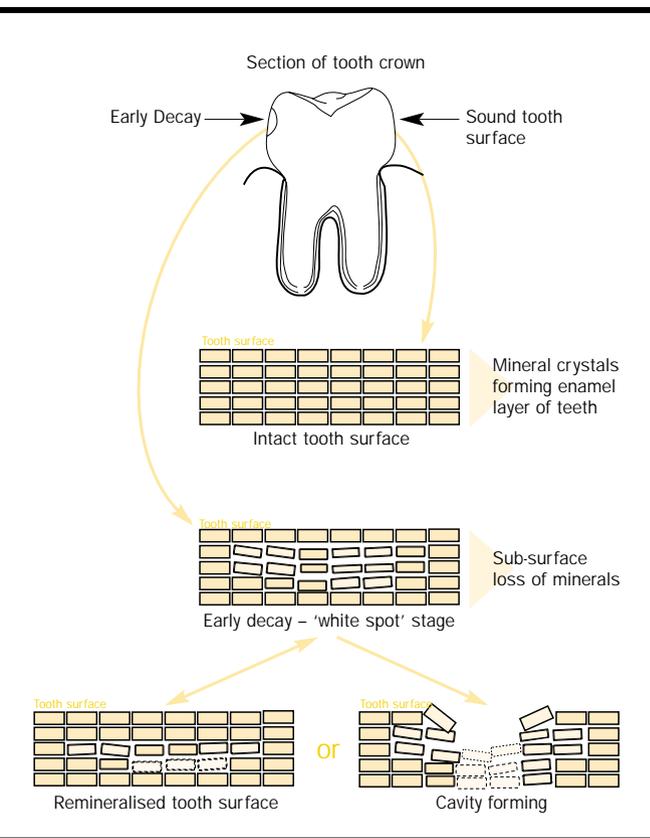


'White spots' indicate that acid attack has dissolved some of the tooth enamel; however, the process can be reversed. We call this arresting or remineralising decay.

Arresting the decay will usually replace much of the tooth mineral lost below the tooth surface, and increase the tooth's resistance to further decay in the years ahead. Figure 4 shows a simplified layer of tooth surface, with the possible outcomes of 'white spot' early decay.

**Figure 4**  
Diagram of tooth and enlarged simplified structure of the tooth enamel layer.



To arrest or remineralise early decay, your dental professional may recommend decay management approaches rather than provide a filling.

**A management plan may include the following activities:**

#### Home care:

- **dietary advice**, such as reducing the frequency of sugary or acidic foods or drinks consumed;
- **personal oral hygiene** – brushing with a fluoride toothpaste more often;
- recommendation of **additional fluoride products** like mouth rinses or gels available in your pharmacy or supermarket;
- advice on chewing sugar-free gum.

#### Professional care:

- frequent brief dental visits to monitor progress;
- professional application of fluoride;
- it may be suggested that you have special resin sealants placed on undecayed vulnerable tooth surfaces, to protect them from future decay;
- routine management of other dental problems.

“Let’s not fill them; first let’s try to reverse the damage”

While a filling may be necessary once the decay has progressed to a cavity, it is preferable at the early ‘white spot’ stage to try to arrest it. Fillings may need to be replaced after several years; very large fillings weaken the tooth structure and increase the risk of tooth fracture.

If your dental professional says, “You have early decay in some of your teeth. However, let’s not fill them, but rather try first to help you stop the decay progressing,” you will know why this is being suggested.

**Your teeth should last much longer and give you less trouble if the tooth structure can remain intact.**

Don’t allow early decay to progress to cavities which need filling. This can be avoided by:

- taking more care with your diet
- cleaning teeth thoroughly with fluoride toothpaste
- applying other preventive methods as recommended.

**Remember – these days you should expect to keep your teeth for life!**

Further information can be obtained from

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THE UNIVERSITY OF ADELAIDE  
Colgate Caries Control Program

Decay Decay Decay

Knowledge of the processes of dental decay has changed significantly over the past 20 years, followed by improvements in the methods of its treatment. The aim of this brochure is to explain these changes, and help you to realise that your teeth can last for life.

The traditional concept of decay is that it is a one-way process resulting from acid on tooth surfaces. Current knowledge shows that **decay isn't a one-way process, and damage to tooth surfaces can be arrested and repaired.**

## Your teeth can recover from early stages of decay

- Early stages of decay – when 'holes' have not developed, appear as 'white' spots on the tooth surface. These **can in most cases be reversed**, so that the decay disappears.

Figure 1

Note the opaque white patches near the gums in almost every tooth (seen in a 17 year old female's mouth).



It is very important that decay is detected at this early 'white spot' stage (seen in *Figure 1*). Early stage decay may be present for many months, or sometimes even years before it progresses to form a cavity (see *Figure 3*).

- The darkly stained cavity, as seen in *Figure 2* is the more advanced stage of decay.

Even if decay has progressed to an advanced stage, resulting in severe pain, the tooth can usually be saved from extraction. Losing a tooth may result in many other problems, such as difficulty with chewing, the need for partial dentures, the spreading out of remaining teeth.

- Most decay is now preventable – it is no longer inevitable that your teeth will develop decay.

Recent surveys have shown that more than half the Australian child population have not developed any new cavities in their permanent teeth over the last few years. With special care, assisted by your local dental professionals, you also can control decay in your mouth.

Figure 2

Advanced decay in a 27 year old male's mouth. The cavities have become darkly stained.



- You don't need to lose all your teeth as you get older.

Fewer elderly people now need to wear false teeth or partial dentures. Even though people are living much longer, they are increasingly retaining more of their natural teeth.

## Who is at risk of decay?

Decay used to be worst in the 5-15 year olds. These days, very few children in this age group have a problem with decay, thanks to the use of fluoride in drinking water and in toothpaste. The age groups with the highest decay rates are now the 15-30 year olds, and the over 60s.

## Factors contributing to dental decay:

- diet containing lots of sugar, acidic foods or drinks eg, soft drinks or sports drinks, frequent sugary snacks;
- inadequate oral hygiene eg, infrequent brushing, using non-fluoridated toothpaste;

Figure 3

Some of the early decay patches have broken down to form cavities in the 21 year old female's mouth. Note the white patches also present.



- more decay is found in patients with general health problems, those who are taking medication which either contains excessive sugar or which causes dry mouth through reduced production of saliva.

## How the decay process happens

Bacteria in the mouth can use the carbohydrate found in food to produce acid, which is harmful to teeth. Frequent snacks or acidic drinks promote the production of plaque acid, which may lead to tooth decay.

**If decay does develop but is detected early, it can be controlled by improved preventive action.**

We now have to think differently about decay, and realise that we can control it more readily ourselves. Even if we develop the early stages of decay, improved home care and regular dental 'check-ups' will enable these early 'white spots' to be detected and prevented from progressing.