

# HOW TO KEEP YOUR TEETH

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There are basically two disease processes that can lead to the eventual loss of teeth. One is **decay (caries)**, which will destroy the tooth and cause pain or abscess formation and eventually necessitate the removal of the offending tooth. The other is **gum (periodontal) disease**, which is just as prevalent as decay although most of the population is unaware of its presence. Gum disease does not destroy the tooth, rather it attacks the gum tissue and will eventually cause the tooth to fall out.

## What Causes These Diseases?

Both types of disease are caused by **plaque**, which is an almost invisible, sticky substance made up of a combination of mouth bacteria, food (mostly sugar) and substances in saliva. Everyone has plaque and no-one can get rid of it permanently. Even if your teeth are thoroughly cleaned of all plaque, it will build up again within 24 hours. It is usually hard to see. However, if it is allowed to build up over a few days, it can be seen as a whitish coating on the teeth. If left long enough, it will calcify and become “calculus” or “tartar” which is often seen on the backs of the front teeth in the bottom jaw.

## Tooth Decay

Decay occurs when the bacteria in the plaque are exposed to sugar. They produce acid, which dissolves the tooth and so causes decay. If the plaque is cleaned off the tooth, or if no sugar is eaten, then no decay will occur. Dentists have found that after sugar is eaten, the bacteria in plaque produce acid within about 15 minutes. This means that to minimize the effect of sugar, you should clean your teeth within 15 minutes of eating it. Children particularly should clean their teeth straight after eating. They should not wait until several hours have elapsed since eating.

Another way to avoid decay is simply not to eat any sugar. However this is practically impossible to do. As well, many people like sugar, and refuse to stop eating it. Fortunately, dentists have discovered that certain types of sugar can be eaten at specific times and not cause excessive amounts of decay. They have classified sugar into three types which are:

1. liquid sugar (e.g. soft drinks and in tea and coffee)
2. Solid sugar (e.g. cakes and biscuits)
3. Sticky sugar (e.g. toffee and lollies)

Scores can be given to these types: Liquid = 1, Solid = 2, Sticky = 3. What this means, in effect, is that **sticky sugar is three times as bad for teeth as liquid sugar** and will therefore cause three times as much decay.

Scores can also be given to the periods when sugar is eaten. Sugar eaten between meals (e.g. morning tea, after school, etc.) scores 3, whereas sugar eaten during a meal (particularly at the start of a meal) scores 1. In effect this means that **sugar eaten between meals will cause 3 times as much decay** as the same type of sugar eaten during a meal.

Simple multiplication shows us that sticky sugar (score = 3) eaten between meals (score = 3) will obtain a score of  $3 \times 3 = 9$ . Sugar in a soft drink (score = 1) taken during a meal (score = 1) has a score of  $1 \times 1 = 1$ . **Thus sticky sugar eaten between a meal has the potential to cause nine times as much decay as sugar in liquid taken during a meal** which scores only 1. It is therefore important that sugar intake is carefully regulated.

## Children's Teeth.

If you are a parent, it is relatively easy for you to reduce the number of cavities in your children's teeth by making sure that **they do not eat sticky sugar between meals**. For their “between meals” snacks, try to **substitute sugar with other food** (e.g. fruit, bread-butter-vegemite, chips, celery, carrots, etc.) If they do eat food with sugar then they should clean their teeth within 15 minutes of eating.

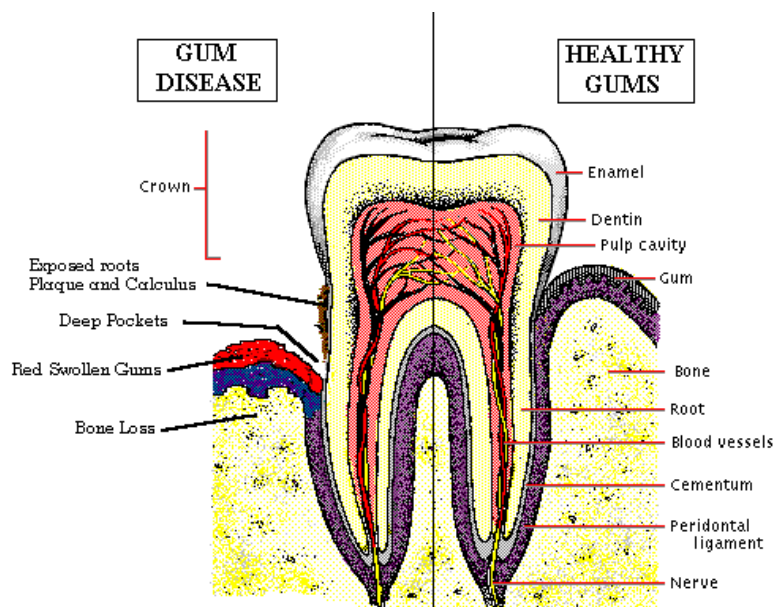
## Fluoride.

All teeth can decay. However young teeth (in children and teenagers) are much more prone to decay than older teeth (e.g. in adults over 25.) Teeth can be made stronger and more resistant to decay by adding fluoride to the water that children drink. Their bodies absorb the fluoride and incorporate it into the tooth enamel thus making it harder and more resistant to decay. This will reduce decay by a factor of about 50%. Your dentist can also paint concentrated fluoride on the teeth. As well, the patient can apply it to the teeth every day if they use fluoride toothpaste. This will make the tooth surface tougher and thereby reduce decay by approximately 25%.

## The Normal Tooth and Gums (refer to the diagram.)

Healthy gums attach to the tooth. Under the gums lies the bone and from the bone to the root of the tooth are fibres (periodontal ligament) that hold the tooth in place. Without the bone or the fibres, the tooth will fall out and there is nothing to keep the tooth secure and stable.

### A cross-section of a tooth and gums



### Gum Disease (refer to diagram)

Gum disease starts when the food and plaque collect at the attachment of the gum to the tooth. (See above diagram.) This is an equivalent situation to when a cut in the skin gets “germs” into it. The cut becomes infected and inflamed. It bleeds easily and does not heal. Exactly the same thing happens when food and plaque collect around the gum. The gums become infected and inflamed. They bleed and do not heal.

Experience has taught everyone that when a cut is infected, it must be cleaned, the “germs” must be scrubbed out (it does not matter if the cut bleeds) and then the cut must be kept clean. The cut will then heal.

The same thing applies to the gums. If they are infected then the plaque must be cleaned off, and then the tooth and gums must be kept clean. The gums may bleed for a while, but within a week they will become healthy. **If the food and plaque is not cleaned off, then the gum disease will become worse.**

With a worsening of gum disease, the gums detach from the tooth and slide down the root to form a gap or a pocket. When this pocket is present, three things can occur.

### *1. Sensitivity*

The tooth may become sensitive. Normally hot and cold things will not cause any reaction because the hard solid enamel protects and insulates the nerve. However, when a pocket is present, the root of the tooth is exposed. The root has hollow tubules leading to the nerve and so, with a pocket present, hot and cold things can pass via the pocket, through the tubules to the nerve. Thus the tooth becomes very sensitive to hot and cold.

### *2. Food Impaction*

Food and plaque get wedged into the pockets and cannot be properly cleaned out. More infection therefore occurs which causes a deeper pocket to form. This becomes a self-perpetuating vicious cycle.

### *3. Infection*

The tissue next to the pocket will become infected and inflamed. This causes certain cells to resorb (eat away) the bone. Over a period of years the bone will be eaten away entirely. This leaves the tooth with no support. It will become loose and either fall out or have to be taken out.

## **Can Gum Disease Be Stopped?**

Gum disease can be stopped merely by cleaning the plaque and food away from the gums. This will stop the pockets forming and stop the bone being eaten away. **If you prevent gum disease, you can keep your teeth for a lifetime** provided that you visit a dentist regularly. The dentist will check that your total oral health is satisfactory.

## **Toothbrush Design.**

A toothbrush is needed to clean your teeth. The brush should have a small head with multisoft bristles and the bristles should be cut flat along the tip. “Oral B” toothbrushes are the correct design and reach all the teeth in the mouth (especially where there is very little room between the cheek and the back teeth.) The bristles should be flat on top, because this is the most efficient design. The brush should be multisoft because a hard one will cut and scrub the gums away and therefore cause more harm than good.

## **How To Clean Your Teeth.**

It is best that the teeth and gums are cleaned twice a day - once in the morning and once at night. **At least three minutes must be taken every time the teeth are cleaned.** It takes this amount of time to clean all the teeth properly. They cannot be cleaned properly in 30 seconds. It must be emphasized that most of the work that is needed to prevent gum disease has to be performed by you, the patient. This becomes obvious when you realise that you only see the dentist a few times a year and yet the teeth must be cleaned twice a day. Quite clearly then, it is mainly your duty to clean your own teeth and gums. All the teeth and gums must be cleaned. If one tooth is missed, then the gums around that particular tooth and probably the tooth next to it will become infected. A system should therefore be used that will properly clean all the teeth and gums every time you “clean your teeth”.

## **Cleaning The Gums and Teeth with a Toothbrush.**

Start on the **upper left-hand side on the outside** of the back teeth. Clean the gums and the teeth and move the toothbrush around to the front teeth and then even further around to the right-hand teeth. **Be careful that the brush is on the gums** and that it is moved in a circular or up – and – down motion. When the upper teeth on the outside have been cleaned, take the brush back to the upper left-hand side and start **on the back inside gums** and teeth. Move forward on the inside and proceed around to the back right side, ensuring that the brush is **cleaning the gums as well as the teeth.**

Now that the upper teeth and gums are clean, start on the **outside of the lower left side of the back teeth.** Move forward and be careful to clean the gums of the lower front teeth (closing the mouth halfway will relax the lower lip to make this easier.) Again complete the procedure by cleaning the right-hand teeth. The hardest job is still to come. The **inside of the lower teeth** still need to be cleaned. However, the tongue is in the way and makes the task difficult. Nevertheless, it must be

done or gum disease will occur on the inside gums. Start again on the back left gums, move to the front and with an up-and-down motion, thoroughly cleaning the inside of the front teeth and gums. Proceed to clean the back right teeth and gums by again **pushing the tongue out of the way**.

The whole job is made easier if you clean your teeth in front of a mirror. This is because it is difficult to feel where all your teeth are. But the task is easier if you can see them in a mirror.

### **Cleaning the Gums and Teeth with “Dental Tape” and “Interdental Brushes”**

Unfortunately, brushing can only clean the outside and the inside of the teeth and gums: **it cannot clean between the teeth**. This means that even after complete tooth brushing, about 40% of the gums are still not cleaned. To clean **between your teeth, “Dental Tape” or “Interdental Brushes” need to be used**. Both these can be obtained from the chemist and should be used every one or two days depending on the severity of the gum disease that you have. Usually your dentist will also have both of the “tools” to purchase if that is more convenient.

**To use “Dental Tape,”** break off a length of about 45 cm (18 inches) and wrap it around the middle fingers of both hands, leaving 10cm (3-4 inches) taut segment between your fingers. Place the thumbs or forefingers on this segment, leaving about 2cm (half an inch) of tape between them. Use the tape held between the thumbs to clean between the upper teeth. With the tape held between the forefingers you can clean between the lower teeth. With a gentle sawing motion, insert the tape between two teeth and **scrape the sides of each tooth** approximately three times. As you scrape, guide the “Dental Tape” gently to the gum until part of the tape disappears. It will take about 3 to 5 minutes to clean between all the teeth satisfactorily. If gum disease is present, it is usual to experience some bleeding and soreness from cleaning. However this should clear up as the gums become healthy. The gums around the **upper back teeth** and the **lower front teeth** are often the earliest sites to be affected and more attention should therefore be paid to these areas when cleaning.

Another really effective method to clean between your teeth is **to use “Interdental Brushes”** (eg **TePe or Pikster** – look them up on Google). These are tiny “bottle brushes” that properly clean between your teeth. There are various sizes of brushes and so you can purchase the right size for your interdental gaps (ie some people have small gaps and others have large gaps – so the size of interdental brush needs to vary to suit your situation).

You can use these brushes like a “toothpick” but, because these interdental brushes have bristles, they clean much more effectively than toothpicks. Even so, you must brush the side of each tooth (ie the front of one tooth and the back of the adjacent tooth) when you use them (ie it is not just to poke the trapped food out, but to brush the plaque off the sides of each tooth).

**Hint:** You can bend (or “angle”) the brushes to get between the back teeth easier. You can also rinse the brushes after use and re-use them until you need to replace them (therefore you can get better duration and value from them, rather than throwing them out after every usage).

### **Keep Your Teeth For A Life Time**

If you carry out all these instructions then **you can retain your teeth for a lifetime**. You will certainly need less treatment when you go to the dentist, and this will **save time, trouble and expense**. You may eventually discover that your dentist is not someone who merely drills and fills teeth, but **is a person who can help you prevent dental disease** and keep you and your whole mouth happier and healthier.

### **A Little Extra Help**

There are some mouth washes and toothpastes that have special ingredients that can help kill bacteria in plaque. For more information please contact [dale@drdalegerke.com](mailto:dale@drdalegerke.com)

If you need help or advice on any of the topics discussed in this brochure; please email him at [dale@drdalegerke.com](mailto:dale@drdalegerke.com) or go to his website: [www.drdalegerke.com](http://www.drdalegerke.com)