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DECAY,DIET & DEHYDRATION

Unfortunately tooth decay is still a problem. Fortunately though, it is a controllable disease. Most of us know why teeth decay, but with the changes in diet, and readily available foods and drinks that are high risk for teeth, it is easy to slip into a dietary pattern that generates decay.

WHY DO TEETH DECAY?

Sugar is the enemy. Some of the bacteria in our mouths live on sugar. Every time we eat something sweet, the bacteria bind the sugar, and convert it to acid. This acid dissolves the mineral from tooth enamel and, ultimately, can result in a cavity.
These bacteria are well adapted to living in our mouths, and they hide in the nooks and crannies in the enamel. If you don't brush your teeth, they will also form deposits of plaque on any surface they can and decay will start in other areas too.

After eating any sugar, **acid is produced for 20–30 minutes.** As the bacteria use up the sugar, the acidity slowly neutralises and our own system fights the acid with saliva. Brushing your teeth after snacking helps remove excess food deposits, but it can't stop the bacteria that are holding on to the sugar in the pits and fissures, or in between the teeth.
Our teeth will normally survive **two sugar intakes** a day. If you have more sugar than this then you are tipping the balance in favour of decay forming.

The **frequency** of the intake is the problem. For example, if you drink 1 litre of cola in one go, there is very little risk of tooth decay. If, however, you drank the same amount, but had a 100mL glass of Cola every hour, over 10 hours, you would have a very high decay rate.

Sugar exists in many forms. Most obviously as sugar in tea, coffee or hot chocolate; also sweets, cakes, biscuits and chocolate. Many people are unaware of the amount of sugar in fruit and juice as they are naturally occurring. Muesli bars are often bound together with golden syrup or honey and have high sugar contents. The sports/energy bars, gels and drinks are the same.

Acidity

Juice and many drinks are also highly acidic, as well as containing sugar. Most of the 'diet' drinks are also acidic. Wine is acidic and varies depending on type. Carbonated water is also acidic. Beware!

Gastric reflux

If you burp and get acid in your mouth, or have heart burn or have bulimia, the acid from your stomach causes erosion of the teeth. Your doctor can often treat reflux with medication.

Caffeine and dehydration

There are a lot of people who have sub-clinical dehydration. This has a marked effect on their decay rate.
Saliva can neutralise acid and replace the mineral dissolved from enamel. If there is not enough saliva, this can't happen.
Caffeine is a **diuretic** so, as a general rule, you should drink a glass of water with each cup of coffee (without sugar).

Lifestyle can cause dehydration too and people who are at risk of dehydration are those that:

- exercise a lot
- spend a lot of time in water
- work in a hot office
- spend a lot of time in their cars
- have opted to drink less water as visiting the toilet is inconvenient in our busy lives.
- take drugs that cause a dry mouth.

This can lead to there being less saliva which is of a poorer quality. This leads directly to an increase in the decay rate.

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WHAT TO DO?

Many people find that a few simple alterations to their eating and drinking habits are enough to fix the problem.
Watch for how often you eat or drink something sweet or acidic. Try to avoid food and drinks that contain sugar.
Do you need that snack? Can you eat more at a meal so a snack is not needed?
If you must snack, eat cheese and crackers.
Remove plaque with thorough brushing and flossing.
Drink water and plenty of it. You can monitor your hydration from the colour of your urine. Dark means you are dehydrated.
Beware of caffeine and other drugs that cause dehydration.
You can eat something sweet twice a day. Make the most of it and, if you are a chocolate fan, eat it all in one sitting. Oink, oink.

Products

The following products are useful in helping to prevent decay, and also to stop early decay so that it either repairs or doesn't progress any further.
They are not capable of working unless they are used in conjunction with a diet that minimises sugar intake and acid attack.

Baking soda

The old baking soda story does have some basis.
Baking soda is very alkaline and, therefore, is useful in neutralising acid in the mouth.
If you are extreme risk then you can make a home made mouthwash by mixing a teaspoon of baking soda with 250mL of water in a sipper bottle. Use this four times a day for one minute as a mouthwash.
Do not use a baking soda toothpaste if you have gastric reflux – if it mixes with stomach acid, you will get a very gaseous result!

Fluoride

Normal toothpaste contains fluoride, as does drinking water in Auckland.
High fluoride toothpastes or gels are useful for patients at higher risk of decay.
Clinpro or Neutrofluor toothpaste can be used instead of your usual paste. Brush thoroughly for two minutes, and then spit it out and do a light rinse only. Repeat in the morning.

Savacol mouthwash

Savacol contains chlorhexidine which helps to reduce the population of the bacteria that cause decay. It needs to be used one hour apart from tooth brushing, so most people find it easiest to use it in the middle of the day. Rinse 5-10 mL for one minute a day, for one week, each month. Do not use it for longer than this as it can cause black staining. If you still get some staining, consult with us about what to do.

Xylitol

This artificial sweetener has anti-decay properties.
It is available as granules, chewing gum, mints and lozenges. Use them four times a day to help decrease your decay risk.
The granules can be used for tea and coffee, and baking too.

We can assess your risk level as low, moderate, high or extreme. The higher your risk is, the harder you need to work to reduce it. It can be hard to change your habits, but if you do, then you should be rewarded with fewer dental problems, and the dental work in your mouth will last a lot longer.

Reference: *Journal of the Californian Dental Association.*
http://www.cda.org/Portals/0/journal/journal_102007.pdf

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