Dental erosion

Summary

- Dental erosion occurs when the surface of your teeth is dissolved by exposure to acid.
- Dental erosion is preventable with proper diet, oral hygiene and regular dental care.
- Treatment of dental erosion may require dental care. Ask your dentist for advice.

Dental erosion is the loss of the surface of your teeth due to acids you eat or drink, or acids coming up from your stomach. These acids can dissolve the crystals that make up your teeth, leading to tooth surface loss. These acids can also soften the tooth surface, making it easier for them to be worn away by abrasion or tooth grinding. This is known as acid wear.

Stomach acids can cause dental erosion

The stomach contains many strong acids that are used to digest food. Vomiting and reflux can cause these stomach acids to enter your mouth.

Stomach acids are very strong and can cause substantial damage to the teeth. For example, people with bulimia, morning sickness or reflux (which can sometimes occur without you knowing) may experience this problem.

Dietary sources of acid can cause dental erosion

Many things that we eat and drink are acidic. One of the reasons for this is that acidic things taste nice. Common foods and drinks that contain high levels of acid include:

- soft drinks (sugar-free and sugar-containing)
- energy drinks
- citrus fruits (lemons, limes, oranges)
- kombucha
- lemon-flavoured drinks or teas
- fruit-flavoured lollies
- most fruit juices
- most cordials
- vitamin waters
- vitamin C tablets
- vinegar
- wine
- pre-mixed alcoholic drinks.

Food acids are often added to processed foods and drinks. If you check the ingredient list of foods and drinks, you can see if food acids have been added. The ingredients are listed in order of their amount in the food, with the most being listed first. The closer any food acids are to the start of the list, the more acid the product will have in it.

In particular, watch out for food acids 330 (citric acid), 331 (sodium citrate), and 338 (phosphoric acid) which are especially bad for teeth. For further information speak to your dental professional.

Symptoms of dental erosion
One sign of dental erosion is the loss of the surface of the tooth, leading to a smooth, shiny appearance. Dental erosion can also make any exposed tooth root (dentine) sensitive to hot, cold or sweet foods and drinks.

When there is advanced dental erosion, the enamel may wear away to reveal the underlying dentine; these areas look like yellow depressions on the tooth surface (see below). Fillings may start to become more prominent if the surrounding tooth surface is dissolving away due to erosion.

Photo: Dr Nathan Cochrane

Complications of dental erosion

Dental erosion, if untreated, can lead to the progressive loss of the surface of the tooth. The loss of tooth structure can require complex and lengthy dental treatment involving fillings, veneers, crowns and potentially root canal treatment.

When the signs of dental erosion are detected, it is very important to determine the cause and modify it.

Preventing dental erosion

Dental erosion can be prevented by limiting contact of acids with the teeth. Some tips include:

- Eat a healthy, well-balanced diet.
- Drink fluoridated water rather than soft drink or juice.
- Eat fruit rather than drinking fruit juice.
- Eat fruit at meal times rather than between meals.
- Reduce how often you eat or drink anything acidic and reduce the time it is in your mouth.
- Seek medical treatment for management of reflux or vomiting.
- Do not chew vitamin C tablets. If necessary, take vitamin C supplements that are swallowed whole.
- Use sugar-free chewing gum after meals to promote saliva flow. Saliva is very important for protecting your teeth from erosion.
- Consider using dental products containing ‘stannous fluoride’ [tin (II) fluoride]. Recent studies suggest stannous fluoride is effective in reducing tooth erosion.

Following exposure to strong acids, you can help to neutralise the acid by:

- rinsing your mouth with water or a fluoride mouth rinse
- rinsing your mouth with a sodium bicarbonate (baking soda) mouth rinse (one teaspoon of baking soda in a glass of water)
- consuming dairy products.

Tips to minimise tooth wear include:

- Use a soft-bristled tooth brush with fluoridated toothpaste.
- Avoid using abrasive toothpastes (some whitening toothpastes and charcoal-based toothpastes are more abrasive).
- Make sure you have neutralised any acid (described above) before brushing your teeth.
- Wear a custom made dental splint if you grind your teeth at night.

Saliva can help reduce dental erosion
Saliva is a powerful natural defence against erosion. Saliva can wash acids out of your mouth into the stomach, it can neutralise acid, and it can repair the early stages of tooth softening by repairing tooth mineral. However, it cannot restore the lost tooth surface. A reduced flow of saliva (dry mouth) can increase your risk of dental erosion.

Stay well hydrated, as this improves your saliva. Remember that dehydration can reduce the amount of saliva you make, so drink lots of fluoridated water.

If you have a constant dry mouth, you may be at increased risk of dental erosion. Talk to your dental professional to identify the cause.

Causes of reduced saliva

Causes of reduced saliva (or dry mouth syndrome) may include:

- medications – some can affect your salivary glands and reduce the amount of saliva that they can make, leading to a dry mouth
- dehydration – working in a dry environment and not rehydrating often enough can lead to a decrease in saliva production. Also, excessive intake of caffeine found in coffee, tea, chocolate and cola drinks can reduce fluid levels in the body and reduce saliva
- some specific diseases or conditions can affect the saliva glands, such as Sjogren’s syndrome.

Treatment for dental erosion

If your teeth have eroded, the lost surface of the tooth may need to be replaced with filling materials or crowns. It is important to visit your dental professional regularly so that they can identify dental erosion early, determine the cause, and then work with you to develop strategies to prevent further dental erosion and tooth wear.

Where to get help

- Your dentist
- Dental Health Services Victoria provides public dental services through the Royal Dental Hospital of Melbourne and community dental clinics, for eligible people. For information about public dental services call (03) 9341 1000 or 1800 833 039 (outside Melbourne metro)
- Australian Dental Association ‘Find a Dentist’ or Tel. (03) 8825 4600