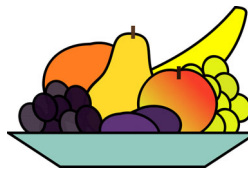




No.5 Dental Care  
Tooth Erosion  
Information Leaflet





### The Good News/Bad News about your Teeth

The Good news is that with proper oral hygiene and regular dental care, you can have an excellent chance of keeping your natural teeth for a lifetime.

The bad news is that over a lifetime your teeth will be exposed to many more acids in foods and drinks and they can wear down the enamel of your teeth. Enamel is the hard, protective coating of the tooth which protects the sensitive dentine underneath, when the enamel is worn away, the dentine underneath is exposed which may lead to pain and sensitivity.

This process is called tooth erosion.

Today's diet includes many foods and drinks that contain acid and can erode teeth. Some are healthy like fruits and fruit juices. Some aren't such as carbonated soft drinks.

Tooth erosion occurs when acidic chemicals wear away a tooth's outer covering or enamel.

When exposed to acidic foods and drinks, tooth enamel is temporarily softened and loses mineral content.

Saliva can neutralize the acidity and re-harden the enamel but because re-hardening occurs slowly, with continual acid exposure, the tooth does not have time to repair itself.

Over time tooth erosion leaves the inner tooth structure exposed, weakened and sensitive. When the enamel is soft and we brush our teeth, the tooth enamel can be worn away more easily.

Thinning of the enamel can cause everything from tooth sensitivity to tooth loss.



### Who is at risk of tooth erosion?

Anyone who eats (and that's all of us) can be affected by acid erosion but certain people are a higher risk than others, even those who enjoy an active lifestyle and healthy diet.

#### **People who drink a lot of carbonated beverages**

Many colas and other soft drinks (even sugar-free varieties) are extremely acidic. Children and teens are especially at risk.

#### **People who eat a healthy diet**

Many healthy foods that are good for you contain acid.

**People who are heavy coffee and herbal tea drinkers**

Coffee and some herbal teas are very acidic and sipping them throughout the day can cause tooth erosion.

**Active people who consume sports drinks**

Studies have shown the enamel damage cause by sports drinks are 3 to 11 times greater than cola beverages.

**Children with baby teeth**

The enamel of baby teeth is softer and more vulnerable to acid erosion.

**People who have a dry mouth (xerostomia)**

Because saliva plays an important part in neutralizing acids in the mouth, people with dry mouth are more susceptible to tooth erosion.

**People who suffer from chronic acid reflux or gastroesophageal reflux disease (GERD)**

One study found that 11 out of 20 patients with GERD had tooth erosion.



### Signs of tooth erosion

The effects of tooth erosion cannot be reversed. When enamel is gone it is gone forever. Severe damage may require teeth to be removed.

Erosion usually shows up as hollows in the teeth and a general wearing away of the tooth surface and biting edges. This can expose the dentine underneath which is a darker, yellower colour than the enamel. Because the dentine is sensitive, your teeth can also be more sensitive to heat and cold or acidic foods and drinks.

#### **Early Signs:**

- Sensitivity when consuming hot or cold foods or drinks
- A yellowish appearance as the tooth enamel thins
- A rounded 'sandblasted' look on the surface of the teeth

#### **Later Signs:**

- Transparency on the biting edge
- A darker more yellow appearance
- Extreme sensitivity to hot and cold
- Small dents on the tooth surface



### Are there any medical problems which can cause dental erosion

Bulimia is a condition where patients make themselves sick so that they lose weight. Because there are high levels of acid in the vomit, this can cause damage to tooth enamel.

Acids produced by the stomach can come up into the mouth (this is called gastro-oesophageal reflux). People suffering from a hiatus hernia or oesophageal problems, or who drink too much alcohol, may also find they suffer from dental erosion due to vomiting.



### What you can do to prevent tooth erosion

It is impossible to completely avoid the effects of acid erosion on your teeth. The challenge is to minimise the amount of time your teeth are exposed to acids:

#### **Think about:**

What and how you eat and drink

- Reduce or eliminate carbonated drinks (including sugar-free varieties) in your diet. Have acidic foods and drinks just at mealtimes.
- Use a straw directed to the back of your mouth to reduce the contact your teeth have with acids.
- Drink acidic drinks quickly. Don't hold them in your mouth or take many sips over a long period of time.
- Don't suck on sour fruits, candies or frozen fruit juices.

After you eat and drink

- Rinse your mouth out with water right after consuming acidic drinks or food
- Eat a piece of cheese to neutralise the acid
- Chew sugar-free chewing gum to increase saliva flow in your mouth

How you care for your teeth

- Don't brush your teeth immediately after having an acidic food or beverage. Wait at least one hour before brushing your teeth.
- Use a soft toothbrush and brush gently. Brush your teeth twice a day.
- Use a toothpaste recommended by your dentist that is designed to re-harden softened tooth enamel
- Get regular dental check-ups and tell your dentist about any concerns you have.



### The acid test for foods and drinks

Acidity is measured by pH. A pH level of 7 is considered neutral, neither acidic nor alkaline. Many common foods and beverages have a pH level below 4 which is the acid level that causes tooth erosion.

<u>Item</u>	<u>Approximate pH</u>
Tap Water	7.7 – 7.0
Milk	6.4 – 6.8
Cheddar Cheese	5.9 – 6.0
Bread	5.0 – 6.2
Bananas	4.5 – 5.2
Tomatoes	4.3 – 4.9
Beer	4.0 – 5.0
Ketchup	3.8 – 4.0
Root Beer	3.8 – 4.0
Honey	3.7 – 4.2

Diet Lemon/Diet Soda	3.7 – 3.8
Orange Juice	3.3 – 4.2
Pickles	3.2 – 3.7
Lemon/lime soda	3.2 – 3.3
Blueberries	3.1 – 3.3
Apples	3.1 – 3.9
Diet Cola	3.0 – 3.3
Grapefruit	3.0 – 3.8
Iced Tea	2.9 – 3.0
Vinegar	2.4 – 3.4
Coffee	2.4 – 3.3
Cola	2.4 – 2.5
Sports Drinks	2.3 – 4.4
Wine	2.3 – 3.8
Lemon Juice	2.0 – 2.6



### Juice

We all know toddlers love juice, and what's not to love? Even 100% juice with no added sugar, which is what your child should be drinking, is a sweet treat but the dangers of too much juice far outweigh the benefits. . Here are some reasons why giving your child too much juice will only cause problems in the long run:

- The first danger is that, as with milk, toddlers would live to fill up on juice if you would only let them and the nutrients they get from juice do not given them what they need and what they could get from a more well-rounded diet.

- Secondly, although it may seem as though you are giving your child a healthy apple every time you hand over a cup of apple juice, it is actually much better to just cut up and serve the apple. It is recommended that only 50% of the daily requirement for fruit servings for toddlers and pre-schoolers comes from juice.
- **And this is a big one!** The natural sugars in juice can cause tooth decay, which can be devastating for a young child who has to go through hours in the dentist chair having cavities filled. Juice is especially hard on developing teeth if it is served in bottles, it should always be offered in a cup.

Make sure you serve 100% real fruit juice to get the full nutritional value. Any juice that is described with the words 'drink', 'cocktail' or 'beverage' is usually made with a lot of sugar and not of actual fruit juice.

**The following is a list of preferred juices:**

**Orange** – the juice with the highest amount of vitamin C and potassium and a good source of folate and thiamine. It also contains cancer-fighting phytochemicals.

**Grapefruit** – the juice with the second highest amount of vitamin C.

**Apricot** – this juice is high in vitamin A and contains a small amount of iron and zinc.

**Prune** - The juice highest in iron, zinc, fibre and niacin.



### Frequently asked questions

*Q. What is the difference between tooth erosion and tooth decay?*

A. Tooth erosion refers to the action of acid on the entire tooth surface. Tooth decay (cavities) is caused by bacteria that target areas, such as pits, grooves and spots where teeth touch.

*Q. What are the major causes of tooth erosion?*

A. Tooth erosion is caused by acidic foods and drinks that wear away tooth enamel. Today carbonated beverages are considered a major cause of tooth erosion. Continuous consumption of soft drinks (including sugar-free varieties) throughout the day can result in serious erosion due to the citric acid and phosphoric acids in those beverages. Brushing your teeth immediately after consuming acidic foods or drinks can quickly wear away the softened enamel.

*Q. Are there any products which can reverse or prevent tooth erosion?*

A. Once tooth enamel is lost it is gone forever. However, fluorides and toothpastes designed to re-harden the tooth enamel make it more resistant to acid attack.

*Q. What can a general dentist do to help me avoid tooth erosion?*

A. A general dentist can determine if your teeth show early or late signs of tooth erosion and make recommendations to reduce the wear

