

Tooth wear – What is it?

Tooth wear can be defined as the loss of tooth substance by mechanical or chemical process. ⁽¹⁾ It is not the same as tooth decay. There are several types of tooth wear. This leaflet will focus on Erosion, Attrition and Abrasion.

Most people have a combination of the different types of tooth wear.

Tooth wear is a natural ageing process. Sometimes the process can be rapid and destructive and requires treatment.

Signs of tooth wear – What will I see?



(2)

Tooth wear mostly caused by attrition

Tooth wear mostly caused by erosion

Tooth wear mostly caused by abrasion

Symptoms of tooth wear – What can I feel? What does it do?

Tooth wear is permanent. Symptoms of tooth wear may include:

- Pain or sensitivity when consuming hot, cold or sweet drinks
- Yellowish discoloration of the teeth
- Greater risks for more holes and need for fillings, over time
- Loss of tooth tissue resulting in a change in the shape and form of teeth
- An abscess, in very extreme cases
- Tooth loss, in very extreme cases
- Possible headaches, Jaw pain (temporomandibular disorders may be caused by tooth grinding) ⁽³⁾

How common is tooth wear?

57% of 5 year olds in the UK have tooth wear on the lingual surfaces of their baby teeth. ⁽⁴⁾ The lingual surface is situated on the tooth surface closest to the tongue and palate. Unless children are examined by a dentist the tooth wear may not be seen. The most likely cause is erosion. ⁽⁴⁾

38% of 12 year olds have tooth wear, on the same lingual surface but in their permanent teeth. ⁽⁴⁾ The most likely cause is erosion. ⁽⁴⁾ There has been an increase in moderate tooth wear in younger adults, particularly those aged 16 to 24. ⁽⁵⁾ The percentage of severe tooth wear in adults remains low (2%) ⁽⁵⁾

Causes of Tooth wear

This section will discuss the cause of the three main types of tooth wear: erosion, attrition and abrasion

Erosion

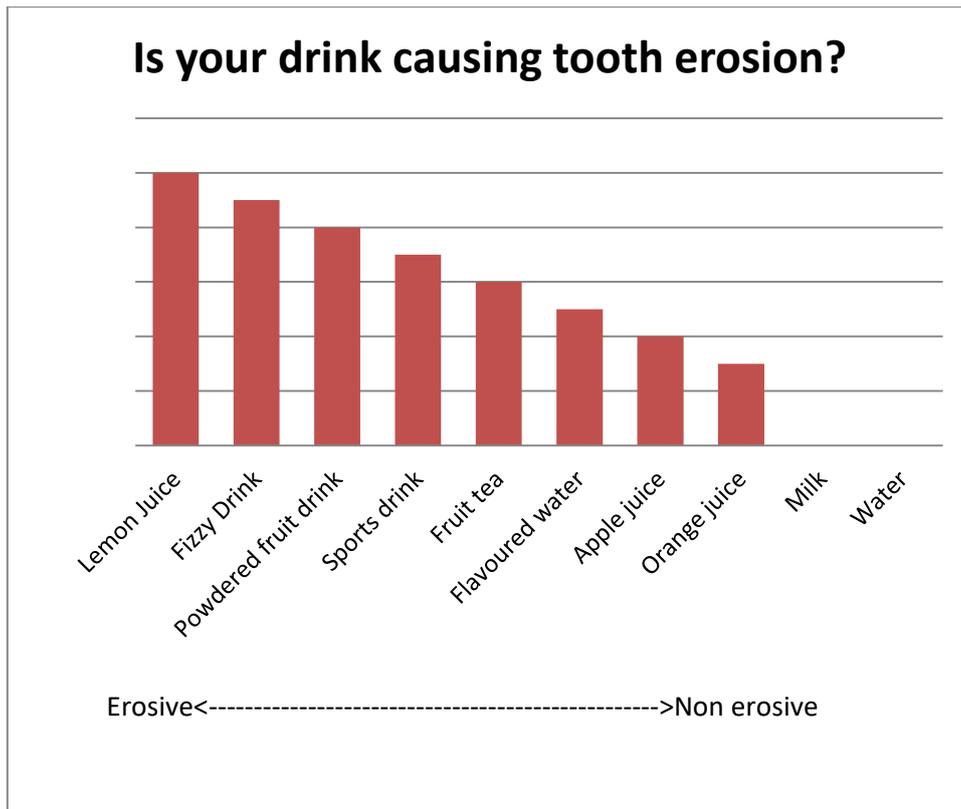
Erosion is the loss of the hard substance of a tooth by chemical processes. ⁽¹⁾ Unlike tooth decay, the loss of the tooth substance is not caused by bacteria. ⁽¹⁾ Tooth erosion is caused by acid. ⁽⁶⁾ This acid can come from outside of the body (extrinsic) or from inside the body (intrinsic) ⁽⁶⁾

Extrinsic Source of Acid	Intrinsic Source of acid
Drinks containing citric acid, including natural fruit juices (orange, lemon, grapefruit, black currant)	Eating disorders including bulimia nervosa *
Acidic fresh fruit in high quantities, all fruit other than bananas or avocado may be erosive with oranges, lemons and grapefruits the most so	Gastric acid reflux including GORD (gastric oesophageal reflux disease)
Fizzy drinks	Chronic vomiting
Alcopops	
Smoothies	
Cider	
Red and white wine	
Fruit teas (but not chamomile)	
Sports drinks	
Vinegar based foods, including pickles	
Acidic sweets	
Chewable vitamin C tablets	
Aspirin	
Some iron preparations	
Medication and other conditions reducing salivary flow	
Other rare sources	
Hydrogen peroxide	
Occupational exposure to acid	

Table source ⁽⁶⁾

If you or someone you know is suffering with an eating disorder and don't know how to get help or who you can talk to for support, the following link is a good place to start:

<https://www.mind.org.uk/information-support/types-of-mental-health-problems/eating-problems/types-of-eating-disorders/>



Attrition

Attrition is the wearing away of teeth by tooth to tooth contact. ⁽¹⁾

If the cause of attrition is tooth grinding/clenching and not just part of the natural ageing process then treatment may be required. ⁽²⁾ It is common to not be aware that you are grinding or clenching your teeth ⁽²⁾

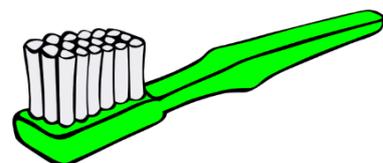


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Abrasion

Abrasion is the wearing of the tooth substance by physical materials for example a toothbrush. This can also lead to gum recession. ⁽²⁾ Abrasion can be caused by:

- Improper use of a toothbrush and or interdental aids⁽²⁾
- Nail biting ⁽²⁾
- Pen chewing⁽²⁾
- Tongue and lip piercings⁽²⁾
- Improper use or placement of dental materials ⁽²⁾
- Abrasive foods such as nuts and seeds ⁽²⁾



What can I do about tooth wear?

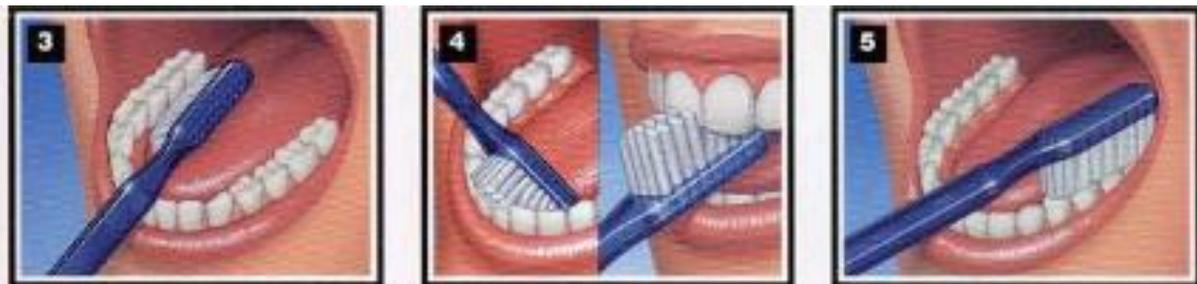
Do	Do not
Do visit your dentist regularly, they will be able to monitor your tooth wear and decide if treatment is indicated	If you do not visit your dentist regularly it will be difficult for your dentist to monitor the tooth wear. Regular monitoring is needed to decide on a treatment plan.
Do wait an hour after eating and drinking before you brush your teeth	Do not brush your teeth straight after eating or drinking. Wait an hour.
Do avoid extrinsic acids such as acidic drinks ⁽⁴⁾ (see table above for more information)	Do not drink fizzy or acidic drinks. If you chose to indulge then use a straw.
Do rinse your mouth with water or snack on cheese or milk after an acid attack	Do not hold acidic drinks in your mouth for longer than necessary
Do try a toothpaste specific for sensitive teeth	Do not use an abrasive toothpaste
Do get treatment for grinding or clenching your teeth (bruxism) (3)	Do not assume that you are not grinding your teeth as most people are unaware that they do it (2)
Do try and identify any specific habit, such as nail biting, that is causing tooth wear and try and stop. Do remove tongue or lip piercings if causing abrasion and gum recession.	Do not continue habits that are causing tooth wear
Do use a small headed toothbrush with bristles of equal length	Do not use a toothbrush with a large head and or bristles of differing lengths
Do use the bass technique when brushing your teeth with a manual toothbrush (see diagram below)	Do not scrub your teeth
Do use a toothbrush with medium or soft bristles	Do not use a toothbrush with hard bristles
Do use an electric toothbrush using the correct technique, following manufacturer's instructions. Choose one with a pressure sensor	Do not scrub or apply too much pressure with your electric toothbrush
Do talk to your dentist or GP if you feel that acid reflux or frequent vomiting may be causing tooth wear	
Do seek treatment for Bulimia Nervosa *	
Do chew sugar free gum	
Do follow specific advise to try and relieve symptoms of temporomandibular disorders ⁽⁴⁾	
Do use a fluoride toothpaste	

Bass technique – a toothbrushing technique to help avoid abrasion/tooth wear



Place bristles along the gum line at a 45 degree angle. Bristles should contact both the tooth surface and the gum line. Ideally toothbrush head should be smaller than the one seen in the picture

Gently brush the outer tooth surfaces of 2-3 teeth using a vibrating back forth and rolling action. Move brush to the next 2-3 teeth and repeat action



Maintain a 45 degree angle with toothbrush contacting tooth surface and gumline. Gently brush back using a back forth and rolling motion along the inside of all tooth surfaces.

Tilt brush vertically behind front teeth. Make several up and down strokes using the front half of the brush.

Place the brush against the biting surface of the teeth and use a gentle back and forth scrubbing motion. Brush the tongue from back to front to remove odour producing bacteria.

Diagram source ⁽⁷⁾