

# Tooth Wear

Tooth wear is the irreversible loss of tooth structure mainly caused by acids in our diet, the grinding of teeth, regurgitation of stomach acids and lifestyle factors. The loss of tooth enamel can eventually cause tooth sensitivity and affect the appearance and function of teeth, ultimately leading to dental treatment.



*Severe wear of the upper front teeth resulting in tooth flattening and shortening*



*Wear of the inside surface of the upper front teeth*

## Causes of Tooth Wear

### Erosion is the major cause of tooth wear

Anything acidic that is in the mouth often and allowed to linger can soften the tooth surface and cause it to lose some of its mineral content. Saliva is a natural protector of our teeth as it helps to 'remineralise' and also dilutes and neutralises acid. So, if a person has hardly any saliva then they are more prone to tooth wear and tooth decay.

### Diet

Soft drinks, fruit juices, sports and energy drinks are highly acidic. Unfortunately these drinks are popular as thirst quenchers and are a major cause of erosion. Drinks containing caffeine (e.g. colas and energy drinks) or alcohol also increase the risk due to dehydration. Acidic drinks consumed more than 4-6 times a week put teeth at risk. Foods that are tart and tangy such as pickles, fruit and vinegar have a low pH (acidic). Acidic foods can also soften tooth enamel if consumed excessively and left to linger in the mouth.

Acidity (pH) Levels pH is a measure of the acidity of substances. When the pH goes below 5.5 tooth enamel can begin to dissolve. Food and drinks with a pH below 5.5 should be consumed in moderation.

Milk	6.9
Water	6.0 – 7.0

### Teeth dissolve at 5.5!

Beers	4.0 – 5.0
Alcopops	3.2
Herbal Fruit flavoured teas	3.1 – 3.8
Sports energy drinks	3.0
Oranges/juice	2.8 – 4.0
Soft drinks / diet drinks	2.7
Vinegar	2.4 – 3.7
Wines	2.3 – 3.8
Lemons, Limes/juice	1.8 – 2.4
Stomach Acid	1.5

### Lifestyle

Many factors in our lifestyle can cause a dry mouth such as playing sport, exercising or working in a hot or dry environment. So too can smoking, recreational drugs and alcohol. Quenching thirst with an acidic drink when dehydrated can lead to tooth erosion. It is best to quench a thirst with plain water.

### Medical Conditions

Medical conditions which help cause erosion include vomiting and/or digestive disorders where acids produced in the stomach rise up into the mouth (gastric reflux). This includes morning sickness, eating disorders, chronic alcoholism and binge drinking.

### Medicines

Medications that are acidic in nature may increase risk of erosion via direct contact with the teeth through chewing or being held in the mouth e.g. asthma sprays, chewable vitamin C and aspirin tablets. Likewise, some medications reduce the flow of saliva and thereby lessen saliva's protective effects. These medications include antihistamines, diuretics and antidepressants.

### Tooth Grinding or Clenching

Teeth grinding (bruxism) is involuntary clenching, grinding and gnashing of the teeth. It generally happens during sleep, but some people experience it when they are awake. Symptoms may include headache, jaw joint or ear pain, aching teeth, cracked or chipped tooth enamel and mobile (loose) teeth.

Bruxism can be a physical expression of stress; for example, susceptible people may tend to grind their teeth when they are

angry, concentrating hard on a particular task or feeling anxious.

Generally, the person doesn't realise that they grind their teeth in their sleep. The spouse or partner who shares their bed (and hears the grinding noises at night) is often the first to notice the problem.

### Management

- Drink water when thirsty.
- Moderate how often you consume acidic food and drinks and limit your intake to meal times.
- To reduce the acidic effect of a drink:
  - Drink ice-cold
  - Drink through a straw
  - Do not sip slowly or 'swish' around the mouth
- After an acidic episode:
  - Swish and rinse the mouth with water OR
  - Drink milk to help re-harden the softened tooth surface
  - **Avoid toothbrushing for about 1 hour** as acids make the teeth more vulnerable to the abrasive effect of toothbrushing.
- Seek medical help for gastric or reflux problems.
- Attend for regular dental check-ups
- Brush teeth twice daily with a **soft** brush and fluoride toothpaste.
- If grinding or clenching is the cause of tooth wear, a night guard may be required to protect the teeth while sleeping



### Repairing Your Teeth

Mild wear generally does not require any treatment other than monitoring.

To address moderate or severe wear build ups on your front teeth will be required. White filling material (composite resin) is bonded to the teeth to bring your teeth back to the correct length. All the teeth must be restored in a single appointment to ensure that your upper and lower teeth match when you bite together. As a result, such appointments are typically longer than normal and can last anywhere from 1.5 hours to 4 hours (depending on the number of teeth). The great advantage is that it is a less destructive treatment option as there is little or no preparation to the teeth.



*Before and after treatment with composite buildups*

### How will it feel?

- Initially the teeth will feel high in the bite and your back teeth will not be in contact. The teeth may feel thicker to compensate for lost tooth structure.
- It usually takes patients 1–2 weeks to get used to this new bite.
- It is unusual for patients to experience pain during this treatment, however, the bite may feel a little uncomfortable initially.
- Your back teeth will come back into contact over a period of 4–6 months, however, in some patients this can take up to 1 year.
- In very few patients (2–4%) the back teeth fail to come back into contact. If this occurs it may not concern you so no further treatment is necessary. In some patients we may have to bond fillings to the back teeth as well.

### What is the longevity of this treatment?

Composite resin buildups are considered a short to medium term solution for worn teeth. While they will typically last a number of years (1-5 years), they may last longer than expected and may end up being a long term solution if there are no issues e.g. caries or fracture. More permanent ceramic crowns may be used in the long term as they are much stronger, more natural looking and stain less than composite resin. The downside is that they require slightly more tooth removal and their higher cost.

### Long term issues of composite buildups

- The white filling material tends to stain with time
- Fracture of individual teeth or chipping of restorations can occur however is generally repairable. Avoidance of hard foods such as ice, nuts and pork crackling is a must.
- Oral hygiene and diet must be exceptional as the bonding of these restorations increases your risk to decay