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University Hospitals of Leicester

Tooth wear

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What is tooth wear?

Tooth wear is the loss of tooth substance that is not caused by decay or trauma. Almost all patients have some minor tooth wear which does not cause any problems. However, some patients have severe tooth wear that can cause:

- Sensitivity
- Poor dental appearance
- Difficulty chewing
- Sharp teeth
- Concerns about further tooth wear



Figure 1: Tooth wear and poor dental appearance, sharp teeth, sensitivity and difficulty chewing.

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What are the causes of tooth wear?

There are 3 main causes of tooth wear:

1. Erosion:

This is when some of the tooth surface (enamel) is dissolved by the acid in our body or our diet. This can be made worse by food and drink that contain acid such as alcohol, fizzy drinks, fruit juice, citrus fruit and vinegar. Erosion may happen due to medical conditions that cause repeated sickness (vomiting) or stomach acid to arise in the mouth (reflux of gastric acid) such as indigestion, eating disorders and pregnancy related sickness. Some patients are not aware that they have gastric acid reflux.

2. Attrition:

This is from direct tooth to tooth contact and tends to affect the biting surfaces of the teeth. Attrition is often caused by repeated clenching and grinding of teeth (bruxism). Some people may not be aware that they grind their teeth as it happens when they are asleep.

3. Abrasion:

This is the loss of tooth substance through mechanical means other than direct tooth to tooth contact. Causes of this could be vigorous tooth brushing, pipe smoking and nail biting.

What can I do to prevent tooth wear?

It is important to think about your lifestyle, diet and possible habits to find the cause of your tooth wear. Think about your current and past habits. If the cause of tooth wear can be found, steps can be put in place to manage these.

- You should always brush your teeth 2 times every day with a fluoride toothpaste and use a fluoride mouthwash at a separate time to brushing. This will harden the surface of the teeth and help with any sensitivity.
- If you clench or grind your teeth you may benefit from wearing a splint which can be made by your own dentist. Splints wear over time and will need to be replaced but this is better than wear to your teeth. We normally recommend a hard acrylic splint as this can be easily adjusted to ensure an even bite.
- Try to avoid snacking between meals and limit the amount of acidic food and drink that you have. Water, milk and tea/coffee (without sugar) are better than fizzy drinks and fruit juice.
- If you have problems with regularly being sick or reflux of stomach acid see your GP. If you are sick (vomit) regularly, avoid tooth brushing immediately afterwards as this leads to greater tooth wear.

Do I need treatment?

Not all patients with tooth wear need treatment. When tooth wear is mild and not causing any problems it should be monitored. This will be done by your dentist with clinical photographs, study models and putty moulds.

When tooth wear becomes more advanced, or it causes problems, treatment is often needed to prevent further tooth wear, improve dental appearance and relieve symptoms.

What treatment is available?

Composite restorations

We will often recommend that worn teeth are built up with white fillings (composite restorations). These do not damage the underlying teeth. Composite restorations are usually placed high so that you only bite in a few areas. This will feel strange to start with, however, most patients adapt within a couple of weeks. Your other teeth will usually move to meet each other with time although this may take up to 18 months.

Over time, any composite restorations will stain, chip, fracture and fail (de-bond). This is to be expected and they will need to be repaired and replaced in the future. Studies show that composite restorations usually work well over 5 to 7 years.



Figure 2: The upper front teeth show tooth wear (attrition)

Figure 3: The upper front teeth shown in figure 2 have been built up with composite restorations

Crowns and overdentures

Where teeth are severely worn we may recommend crowns. Crown preparation may cause the underlying tooth to die off. This can cause pain and you may need root canal treatment or to have teeth taken out (extraction).

Over time, crowns may chip and fracture and they will eventually need to be replaced. Tooth decay can also happen around the crown edges, especially if teeth are not cleaned properly. If there is not enough tooth, it may be possible to have surgery to lengthen the gums and expose more tooth to bond a crown on to.

Sometimes we will recommend an overdenture. This is a denture that fits over worn teeth.

Before and after pictures of crowns are shown below.



Figure 4: The upper front teeth are worn



Figure 5: The teeth shown in figure 4 have been restored with crowns

Who will carry out my treatment?

We usually recommended that your own dentist provides your treatment. If your tooth wear is caused by an underlying medical condition, such as amelogenesis imperfecta or dentinogenesis imperfecta, we may carry out your treatment within our department at Glenfield Hospital.

Treatment for tooth wear is time consuming. You are likely to need multiple, long appointments. As an example, we would normally book 90 to 120 minutes to build up your upper front 6 teeth with composite restorations as shown in figures 2 and 3.

If you do have treatment within the department you will be discharged back to your dentist once treatment has been completed. It will then be the responsibility of your dentist to maintain, repair and replace any work that has been provided.

Contact details

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Department of Orthodontics & Restorative Dentistry: 0116 258 3525 / 3526

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