

Composite fillings used for treating Tooth Wear

Information for patients

Edinburgh Dental Institute (EDI) – Composite fillings used for treating tooth wear

What is tooth wear?

Tooth wear is an increasingly common dental problem and has several causes, which are often seen together.

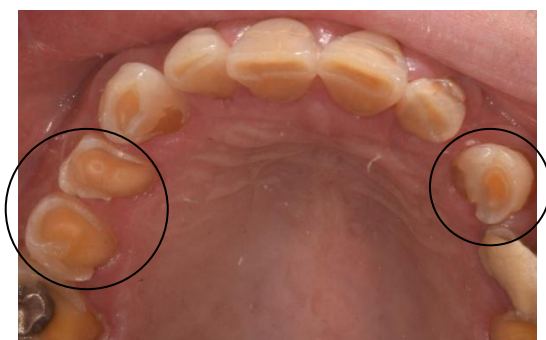


Figure 1: Example of tooth wear marked by dark circles Figure 2: Flat, short and worn teeth are signs of tooth wear

Erosion is the loss of tooth enamel caused by acid attack. 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.

Attrition is caused by grinding and clenching, often at night, can result in teeth becoming shorter and often sharp at the edges.

Abrasion from hard toothbrushing or eating coarse foods will also result in loss of the outer protective enamel layer.

How is tooth wear treated?

Tooth wear does not always need to be treated. It is important to have regular check-ups with your dentist as a way of preventing the problem from becoming worse or leading to other dental problems.

In cases where treatment is required, a less invasive restoration material such as **composite filling** is often suggested. More destructive restorative procedures such as **onlays**, **veneers** or **crowns** can be chosen when toothwear is more advanced.



Figure 3: Example of veneers on the top front teeth



Figure 4: Example of crown on a molar tooth



Figure 5: Example of an onlay on a molar tooth

What is composite filling?

Dental composite fillings are tooth coloured fillings that resemble the natural colour of your teeth. They are also known as resin fillings, white fillings and tooth-coloured fillings. They stick firmly to the teeth using a dental glue which means minimal/no natural tooth needs to be removed.



Figure 6: Before composite fillings on the top front teeth



Figure 7: After composite fillings on the top front teeth

What are the advantages and disadvantages of composite fillings?

Advantages

- Requires minimal/no natural tooth removal
- Good natural appearance
- Quick result
- Easily repaired as the material is available in every dental clinic
- Cost effective

Disadvantages

- Weaker material compared to crowns or onlays
- Risk of complications such as staining and chipping over time

Can be easily polished and repaired by general dental practitioner

When treating your tooth wear, what does “opening your bite” or “change your bite” mean and why is it required?

Tooth wear results in loss of tooth structure. People often don't notice a space developing because the teeth constantly move and grow together (over-erupt) and naturally meet. This means that when we come to restore the teeth, will often do not have the space between the top and bottom teeth that is required to place the composite fillings.



Figure 8: Black arrows showing no space between top and bottom teeth to place composite fillings.

Space is essential because any material used to restore teeth requires bulk/thickness for strength. Without this space, the restorative material will be too thin and will be more prone to chipping/fracture.

The space can be gained naturally and painlessly by “**opening your bite**” or “**change your bite**”. This means restoring the worn teeth with composite fillings, in a new and comfortable bite position where the lower front teeth are slightly behind the upper front teeth.



Figure 9: No space between top and bottom teeth



Figure 10: Composite filling materials placed on upper front teeth. The bottom teeth are slightly behind the top front teeth (new and comfortable bite position). Black arrows showing space is also gained over the back teeth.

Sometimes we need space for restorations at the front and the back of the mouth. However, sometimes we only need space for restorations at the front of the mouth. When we make space for restorations at the front of the mouth only, we normally have to create unwanted space at the back of the mouth too. We can manage the space at the back of the mouth in one of the following 3 ways that will be further advised by your treating dentist.

- 1. Placing restorations on the back teeth:** If the back teeth are worn and require restorations, they will be restored with composite fillings, onlays or crowns at the same time, or shortly after, the front teeth are restored.



Figure 11: Space between top and bottom back teeth after filling materials are placed on the front teeth in the new bite position.



Figure 12: Space filled with filling materials and the teeth are all meeting each other.

- 2. Naturally grow together over time:** If the back teeth are not worn and do not require restorations, the space between the top and bottom back teeth will be left. The back teeth will naturally grow together over time and meet again. This can take around 6-24 months depending on the individual.



Figure 13: Space over the back teeth after composite fillings placed on the front teeth



Figure 14: Space closed as the back teeth grow together naturally after 6 months (different in each individual)

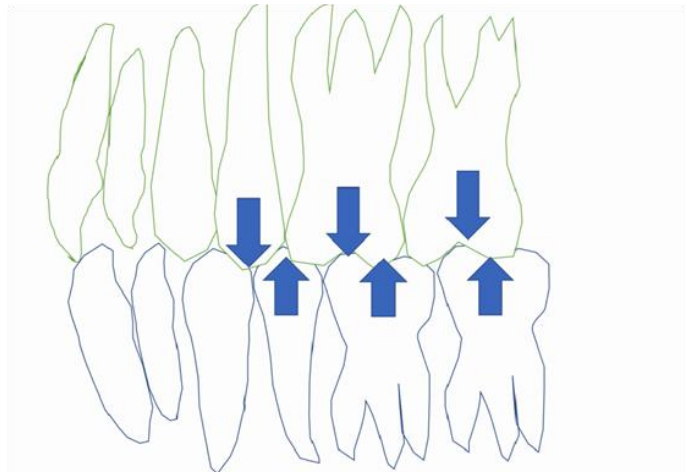
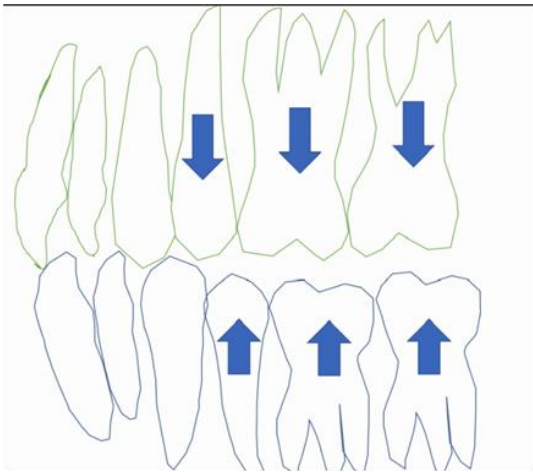


Figure 15: Illustration showing the back teeth coming together, closing the space at the back, after composite fillings of the front teeth

3. Combination of both

Steps for managing tooth wear with composite fillings

1. A trial run (mock-up) of the final result can be done in your mouth before you commit to treatment.
 - A blueprint of the final composite fillings, which are made on dental models, can be trialed on your teeth using a reversible and removable temporary material to simulate the final result.



Figure 16: The blueprint that will be used to simulate the final result of the treatment in your mouth.



Figure 17: Trial run of the final result with a reversible and removable temporary material to simulate the final result.

- The bite, the shape of the teeth, and the overall appearance can be assessed.
 - Any changes can be made at this stage, and a second mockup, may be required to ensure you are happy.
2. We use composite filling material to build up your top and/or bottom front teeth using a template made from the blueprint. We normally treat all of the front teeth in 1 or 2 appointments which are kept close together.



Figure 18: Template made from the blueprint to restore the front teeth with composite filling

3. We normally restore the back teeth after completion of the front teeth.
- The back teeth are usually restored over 2 appointments, the right side and then the left side.
4. A mould will be taken of your new restorations so that we can provide you with a protective hard splint/nightguard (Michigan's splint).



Figure 19: Hard splint/Night guard (Michigan splint)

5. We will review you before sending you back to your own dentist.

**** The visits may vary from 2-4 weeks apart**

**** Treatment may take up to 12-18 months depending on availability of appointments.**

Who will maintain the completed restorations?

- It is the responsibility of you and your dentist to monitor and maintain the composite fillings provided by the Edinburgh Dental Institute.
- For ease of maintenance you may be given the blueprint models and/or template used to restore your teeth. This can be discussed further with the clinician.

How long will the composite fillings last?

- Composite filling is a good material to use in treating tooth wear.
- Evidence shows that composite will last 5-10 years but may require maintenance within this time period.
- Your compliance in wearing the splint/nightguard provided, maintaining very low levels of dental plaque at home alongside a commitment to routine review and maintenance by your dentist, will increase how long the composite fillings last.

Further Information

1. <https://www.erosivetoothwear.com/>
2. <https://www.gov.uk/government/publications/delivering-better-oral-health-an-evidence-based-toolkit-for-prevention/chapter-7-tooth-wear>