

Sipping hot fruit teas can lead to tooth erosion

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Credit: King's College London

An investigation by scientists at King's College London into why some people suffer tooth erosion while others don't has found that it's not just what they eat and drink, but how they eat and drink, that increases their chances of developing the condition.

The research, reviewed in the *British Dental Journal*, identifies the risk factors and damaging habits associated with the consumption of acidic foods that result in the loss of [tooth enamel](#) and dentine, known as

erosive [tooth](#) wear. Erosive tooth wear is ranked as the third most important dental condition, after cavities and gum disease.

Drawing on a previous study at Guy's Hospital London, that compared the diet of 300 people with severe erosive tooth wear and 300 people without, scientists identified how different behaviours increased the risk of developing the condition that affects more than 30% of adults in Europe.

The King's team found that eating and [drinking](#) acidic food and drinks, particularly between meals, carried the greatest risk. Those who consumed acidic drinks twice a day between meals, such as soft drinks, water with a slice of lemon or hot fruit flavoured teas, were more than 11 times more likely to have moderate or severe [tooth erosion](#). This figure was halved when drinks were consumed with meals.

Researchers also identified a range of foods, drinks and medications that have the potential to be erosive. Chief among them were drinks that had added fruit or fruit flavourings. The team report that adding fruit or fruit flavourings massively increased the erosive potential of the drink, putting them on a par with cola drinks.

The study also found:

- Sugar-free [soft drinks](#) are as erosive as sugar-sweetened ones
- Fruit flavoured teas and fruit flavoured sweets, lozenges or medications have large erosive potential when consumed regularly
- Sipping, swishing, holding or rinsing drinks in the mouth prior to swallowing increases the risk of tooth erosion, as these habits increase the duration and/or force of the contact between the acidic drink and surface of the teeth
- The increase in patients with tooth erosion may be linked to

changing patterns of eating, such as increased snacking in both children and adults

- Drinks are more likely to cause tooth erosion when served hot
- Vinegars and pickled products can also lead to tooth erosion

Most people consume acidic food and drink daily, however not everyone suffers from tooth erosion, demonstrating the importance of the way they are consumed. Researchers found that some people have habits which increase both the duration and force that acids are in contact with the teeth.

Wine tasters, for example, swish and hold wine in their mouths for prolonged periods and multiple times a day, while long distance drivers or video gamers may sip acidic drinks over long periods of time.

Lead author of the study Dr. Saoirse O'Toole said: "It is well known that an acidic diet is associated with erosive tooth wear, however our study has shown the impact of the way in which acidic food and drinks are consumed.

"With the prevalence of erosive tooth wear increasing, it is vitally important that we address this preventable aspect of erosive tooth wear. Reducing dietary acid intake can be key to delaying progression of tooth erosion. While behaviour change can be difficult to achieve, specific, targeted behavioural interventions may prove successful."

More information: S. O'Toole et al. The role of the diet in tooth wear, *BDJ* (2018). [DOI: 10.1038/sj.bdj.2018.127](https://doi.org/10.1038/sj.bdj.2018.127)

Provided by King's College London

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