

# SMOOTHIES – A RECIPE FOR DISASTER?

Written by Professor Andrew Eder



With the Oral Health Foundation's research into the UK population's dietary habits revealing that 43% of adults are consuming one or more fruit juices or smoothies every day, Professor Andrew Eder considers the effect of such acidic beverages on the dentition

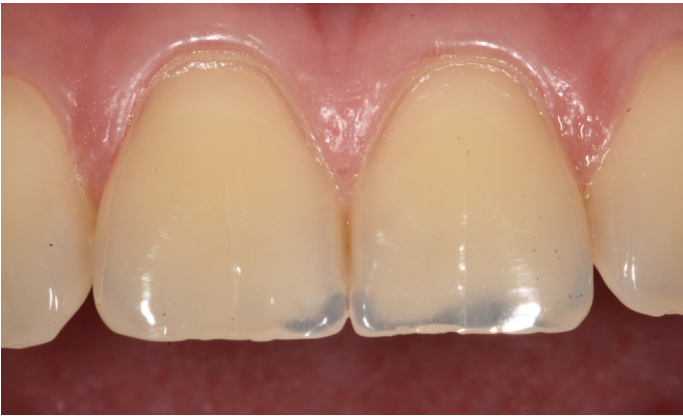


Figure 1: A 44-year-old patient with erosion and enamel thinning

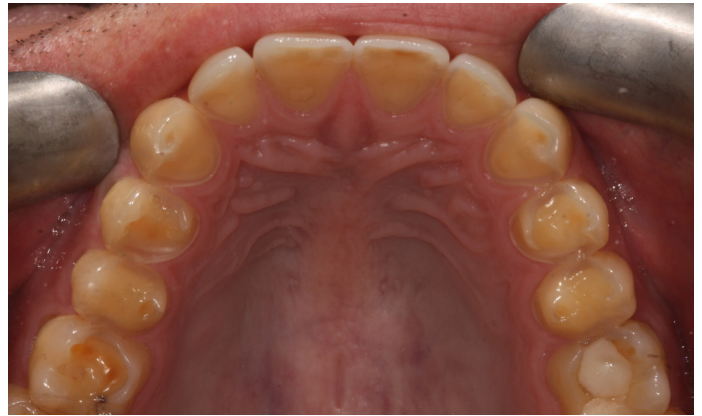


Figure 2: A 44-year-old patient with palatal erosion and enamel loss

Traditionally, National Smile Month, which took place this year between 14 May and 14 June, has provided us clinicians with a great opportunity to communicate preventive ideas and techniques to patients. This does not mean, however, that we are not presented with opportunities all year round. Experience suggests that you have to pick one topic, to garner the greatest possible benefit.

With figures suggesting that tooth wear poses a significant risk to the future oral health of the nation, there is persuasive evidence that there is no time to delay in educating patients about the risks posed by fruit juice to the dentition; after all, the Oral Health Foundation's research into the UK population's dietary habits has revealed that 43% of adults are consuming one or more fruit juices or smoothies every day.<sup>1</sup>

#### PROFESSOR ANDREW EDER

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As the Foundation wrote on this issue, 'As some fruit juices and smoothies contain up to four times the recommended daily amount of sugar in one serving, the acidity of such drinks could cause substantial tooth wear in the form of dental erosion!'<sup>1</sup> (Figures 1 and 2)

Yet with the Government recommending '5 a day' of fruit and vegetables, many people think that they are making a healthy choice by drinking fruit juices. Conversely, Ali and colleagues (2014) found fruit smoothies to be acidic, with very high titratable acidity;<sup>2</sup> in fact, 3.5 to 4 times greater than both Coca-Cola Light and citric acid.<sup>3</sup> (Titratable acidity deals with measurement of the total acid concentration contained within a drink.)<sup>4</sup>

It is also interesting to note that, 'The importance of the dynamic interaction between the acid and the dental surface is observed in those with aggressive drinking habits such as sipping, swishing, holding or rinsing drinks in the mouth before swallowing.'<sup>3</sup>

#### COMMUNICATING PREVENTION

This brings us on to, perhaps, the most complicated aspect of preventing tooth wear - communicating the need to patients

effectively and motivating them to act.

For some, the revelation that what they thought to be 'healthy' may, in fact, be damaging their teeth can come as a shock, so it is imperative to give them as much information as possible about the issue in an easy-to-understand format.

It has been suggested that linking healthier practices with appearance can be the key to getting people motivated, so it may initially be best to focus on the idea that preventive care is essential to prevent teeth becoming short and unattractive, as well as rough or sensitive. And that if left to continue its damaging course, teeth may require extensive restorative treatment further down the line (Figure 3).

It is also important to offer advice as to what patients can do themselves to help prevent damage when they do opt for a smoothie or fruit juice (and it also rings true for sports drinks, carbonated drinks, etc.) including:

- Limiting fruit juice to once per day, preferably with a meal, and avoiding fizzy drinks, etc
- Drinking still water or low-fat milk between meals
- Rinsing the mouth with water for 15 to 30 seconds after consuming acidic drinks
- Chewing sugar-free gum or eating a piece

**THE SIGNS AND SYMPTOMS OF TOOTH WEAR**

- Sensitive teeth
- Discolouration, including yellowing and loss of shine (where some of the outer enamel layer has been lost)
- Sharp or chipped anterior teeth
- Occlusal surfaces wearing flat and taking on a shiny, pitted appearance
- Altered occlusion as vertical height changes
- Restorations standing proud of the teeth
- Abfraction lesions developing cervically
- V-shaped notches or shallower cupping present cervically.



Figure 3: Multi-factorial tooth wear in an older patient

of cheese after consuming an acidic drink

- Waiting at least an hour to brush teeth after consuming any acidic drinks
- Using a toothpaste that contains at least 1400ppm fluoride and a non-abrasive toothbrush
- Using a fluoridated mouthwash every day at a different time to tooth brushing, as well as before or after acidic drinks, to help limit the erosive potential.

**LONG-TERM HEALTH**

Irrespective of age, patients' awareness of the risk posed by smoothies and other acidic

drinks needs to be increased, if we are to avoid extensive and non-reversible damage to the enamel and dentine. To this end, early diagnosis is key to success, as is educating patients as to what they can do to change the current, potentially damaging trajectory of their oral health. ●

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