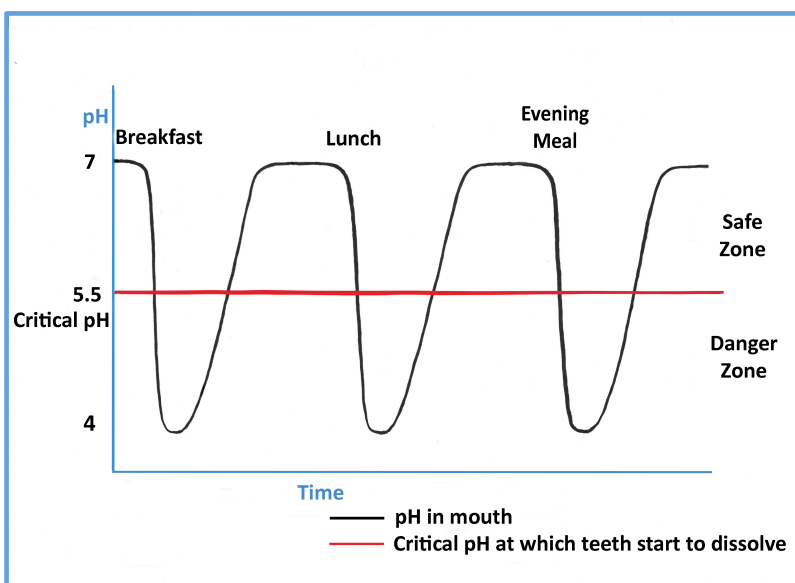


Tooth decay is still a major cause of tooth loss both in adults and children. Whilst pain is a common side effect of decay, it is estimated that in around 50% of teeth, decay will progress to destroying the nerve, potentially leading to abscess formation without hurting previously. This is one reason why regular dental examinations and Xrays to assess the teeth are so important. It is a disease that can affect patients of all ages providing teeth are present.

Decay is however preventable and you can interrupt and even reverse this process to avoid a cavity? To help prevent tooth decay, it is best to have an understanding of why it occurs in the first place, whatever the age.

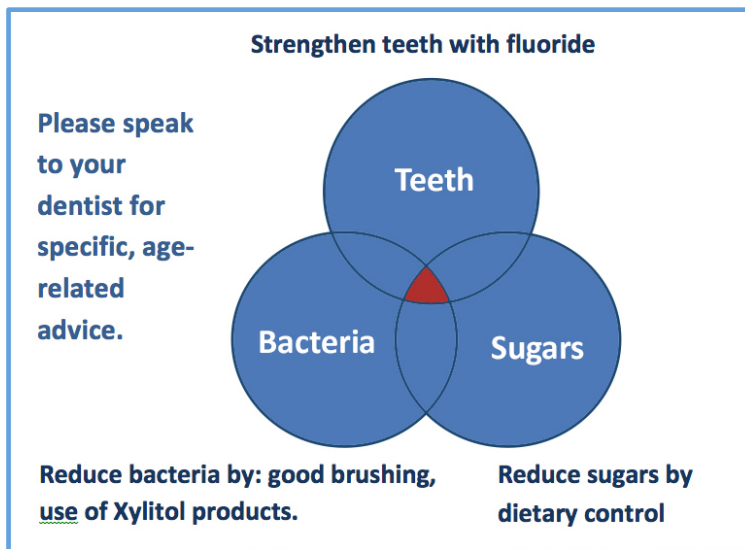
Ordinarily in the mouth the pH fluctuates throughout the day. For most people the pH at rest, as determined by their saliva, is roughly 7 (neutral). After sugars are ingested, they are metabolised by the oral bacteria to produce acids and the pH in the mouth falls. Once it falls below a "critical pH" of about 5.5 the tooth structure microscopically starts to dissolve. Saliva contains bicarbonate, which is alkaline and this buffers the acid to cause the pH to rise and return to a neutral healthy state....until the next ingestion of sugars. Our teeth go through this natural process of losing minerals and regaining minerals all day long - in essence a tug of war between good and bad. Providing sugars are taken only at regular mealtimes, the body is normally able to cope, but when sugars are taken in between meals, the recovery phase is over-ridden and the tooth continues to dissolve. As the tooth dissolves, the bacteria move in to this area and the process continues until a cavity is established.



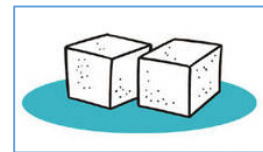
Variation in oral pH throughout the day in response to sugar intake and it's potential to dissolve tooth enamel and cause decay. The more time that the pH remains in the danger zone, the greater the chance of decay developing.

For patients with reduced saliva as a result of disease, certain medications or radiotherapy involving the salivary glands, this resting pH can be rather lower ie more acidic so the buffering capacity is reduced and decay becomes more likely. Even in perfect health, susceptibility varies between individuals and differences are often seen between siblings who appear to have similar diets. Despite these susceptibility issues, if a good preventive regime is followed, decay should be able to be kept under control.

Prevention of decay revolves around reducing the sugar intake and particularly the frequency, reducing the number of bacteria that can metabolise the sugars and strengthening the teeth to make them more resistant to decay.



Reduction of dietary sugars is by far the most important factor here. Whilst refined sugar (sucrose) is the worst cause, glucose that is added to many foods and snacks is a potent cause whilst in more susceptible individuals fructose in fruit and occasionally even lactose in dairy products and breast milk can cause decay. Did you know that one portion of baked beans contains the equivalent of 4 cubes of sugar, the average low-fat fruit yoghurt contains (4 ½ cubes) of sugar in every 100g and a bowl of Alpen Original 5 ½ cubes per 100g. Sugars, just because they are natural eg in honey, does not mean that they will not cause decay; dried fruits equally will contain lots of sugar condensed from the original fruit. Suggestions for “safe” snacks are unsweetened crackers, oatmeal biscuits, crisp bread, rice cakes, savoury muffins, bread rolls, pitta bread, chapattis, toast fingers, bread sticks, carrots, cheese, cottage cheese, cheese spread, Marmite, humus. For most people, fresh fruit, natural yoghurt, natural fromage frais and other natural milk products are fine in moderation. Cheese in particular appears helpful in preventing decay as it helps neutralise the acids, with the casein it contains giving further benefits.



Whilst poor oral hygiene, with residual debris around the teeth acting as food for the bacteria, can be a significant contributor to decay, good oral hygiene alone will not reduce the bacterial numbers enough to prevent decay. Xylitol is a naturally occurring sugar that harms the bacteria that try to metabolise it, resulting in a significantly reduced number of bacteria to be present in the mouth. It is best used in chewing gum and mints, the recommendation is to chew 6 pieces of gum daily. Although great at reducing bacteria, there is mixed evidence on its decay reducing potential. The use of Xylitol as an alternative to sucrose in drinks etc is not recommended as in enough quantity it can cause diarrhoea.

Fluoride is a mineral that can prevent tooth decay from progressing. It can even reverse, or stop, early tooth decay. It protects the teeth by making the tooth surface more resistant to dissolving and helps replace lost minerals in existing early decay. It is important to brush the teeth twice a day with fluoride toothpaste and avoid rinsing after brushing but just spit out instead, as rinsing removes the fluoride that will give the benefit. Higher fluoride toothpastes for older children and adults are also available on prescription from the dentist, if deemed necessary.



Fluoride can also be applied to the teeth by the dentist in the form of a fluoride varnish. The use of fluoride mouthwashes may be helpful in high susceptibility patients, but must be kept separate by an hour or so from the toothbrushing.

In highly susceptible adult patients especially those who have had radiotherapy, the use of bicarbonate mouthrinses may be of benefit to reduce the acidity present.