

Sugar-free chewing gum

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Sugar-free chewing gum has a positive benefit for dental health by increasing salivary flow during chewing, which helps to dilute and neutralise plaque acidity. There is general scientific agreement now that chewing sugar-free gum - amongst other things - can help to protect teeth against decay.

What does chewing gum do?

Over the last twenty years there has been considerable clinical research into the effect of salivary stimulation and the role of saliva in oral health. Clinical evidence suggests that not only does sugar-free gum not decay teeth but that, when chewed after meals and snacks, it will reduce the acidic effects caused by other foods.

In addition to brushing teeth and gums regularly with a fluoride toothpaste, it is now recognised that chewing sugar-free gum can contribute to oral health through potential prevention of tooth decay.

What does saliva do?

Saliva is the mouth's most important natural defence mechanism. It bathes the plaque on teeth and helps to neutralise the acids and wash away sugars. This effect is enhanced if salivary flow after sugary snacks is stimulated - with fruit, vegetables, cheese, for example, or with sugar-free chewing gum, which has the advantage of prolonged chewing. At the earliest stages of the decay process, the tooth surface may 'heal' by deposition of essential minerals from saliva - calcium and phosphate together with fluoride which accelerates the process of remineralisation. Saliva also helps to wash away the remains of food trapped in the hard-to-reach areas of the mouth.

What happens when you chew sugar-free gum?

Both the chewing action and the taste of sugar-free gum stimulate the production of extra saliva by up to 10 times its normal rate. When salivary flow is stimulated its composition changes, the

concentration of bicarbonate increases, enhancing its ability to neutralise plaque acid.

Also, as salivary flow increases, the availability of minerals is increased, helping to repair early tooth decay.

How does sugar-free chewing gum fit into routine dental hygiene?

The most important messages for oral health are to:

- Clean the teeth and gums thoroughly twice every day with a fluoride toothpaste;
- Reduce the consumption, and especially the frequency of intake of sugar-containing food and drink;
- Have an oral examination every year.

When toothbrushing is not practical after meals and snacks, chewing sugar-free gum is a help, but it should not replace any aspect of routine dental hygiene. If used, sugar-free gum should, ideally, be chewed for around twenty minutes in order to maximise the dental benefits.

Can sugar-free gum help relieve xerostomia (dry mouth)?

Patients with dry mouth are more susceptible to tooth decay as their flow rate, pH level and buffering capacity is lowered. Patients are often recommended to chew sugar-free gum to relieve the symptoms of dry mouth and also to help encourage the function of the salivary gland.

Is there a limit on how much you should chew a day?

Sugar-free gum is sweet because it uses non-sugar sweeteners - sorbitol and xylitol especially. These sweeteners can cause short-term gastrointestinal problems if taken in excess. This may occur with products where the amounts consumed are larger, but with chewing gum, the amounts consumed are very small and cannot under normal usage give rise to such problems.

Sugar-free chewing gum can be chewed by anyone from school age upwards. Dentists

recommend that school-age children are advised by their parents on the appropriate use of gum for health benefit.

As most research has been conducted with sugar free chewing gum, and since frequent sugar consumption is dentally harmful, dentists would only recommend this type.

Will any type of gum do?

This factfile was prepared with help from Professor W.M Edgar of the Oral Biology Unit, Liverpool School of Dentistry

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