

A guide to the science of chewing sugarfree gum

In addition to visiting the dentist regularly, brushing twice a day, flossing daily, and maintaining a balanced diet, chewing sugarfree gum can help protect teeth when patients are 'on-the-go'

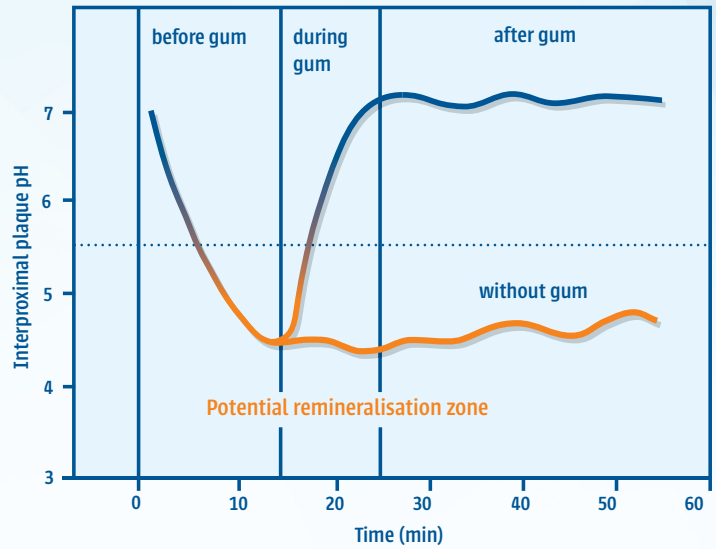
How can chewing gum help your patients maintain oral health?

As you know, immediately after eating, plaque acids can attack teeth and initiate the demineralisation of the tooth surface, which can weaken teeth and lead to decay over time.

Chewing sugarfree gum increases the production of saliva, which can help neutralise plaque acid, wash away food particles and remineralise tooth enamel to strengthen teeth. In fact, chewing sugarfree gum for 20 minutes after meals and snacks has been proven to help reduce tooth decay.¹

Research shows that people who regularly chew sugarfree gum develop significantly fewer cavities than those who do not.²

The Australian Dental Association (ADA), New Zealand Dental Association (NZDA) and the FDI World Dental Federation recognise the scientific evidence supporting the benefits of chewing EXTRA® sugar free gum.



Other oral care benefits of chewing sugarfree gum include:

- ✓ **Stimulate saliva flow:** By stimulating saliva production, chewing sugarfree gum can be an important defence mechanism to help protect teeth.^{3,4}
- ✓ **Reduce plaque:** Chewing sugarfree gum has been associated with a reduction in the quantity and development of plaque on teeth, and a reduction in the acid-forming ability of plaque.^{5,6,7}
- ✓ **Neutralise acids:** Salivary stimulation by chewing sugarfree gum after snacks or meals containing fermentable carbohydrate has been demonstrated to reduce the acidogenic potential of foods significantly.^{8,9,10}
- ✓ **Remineralise enamel:** Stimulated saliva helps to restore minerals in tooth enamel, as levels of calcium and phosphate ions in the saliva increase due to stimulation caused by chewing gum.^{11,12,13,14,15}
- ✓ **Clean the mouth of food debris:** Chewing sugarfree gum increases the rate of food debris clearance from teeth compared with not chewing gum during the initial 15 minutes after eating.¹⁶ This helps create a healthier environment for your teeth.
- ✓ **Relieve dry mouth discomfort:** Stimulation of salivary flow caused by chewing gum can relieve some of the discomfort of xerostomia. In fact, chewing sugarfree gum has been shown to be one of the most preferred treatments for xerostomia.^{17,18,19,20}

¹Szöke J, Proskin HM, Banoczy I. Effect of after-meal sugarfree gum chewing on clinical caries. J Dent Res. 2001; 80(8): 1725-729.

²Newton JT et al. A Systematic Review and Meta-Analysis of the Role of Sugar-Free Chewing Gum in Dental Caries. JDR Clin Trans Res. 2020 Jul;5(3):214-223.

³Dawes C, Dong C. The flow rate and electrolyte composition of whole saliva elicited by the use of sucrose-containing and sugarfree chewing gums. Arch Oral Biol. 1995; 40(8): 699-705.

⁴Polland KE, Higgins F, Orchardson R. Salivary flow rate and pH during prolonged gum chewing in humans. J Oral Rehabil. 2003; 30(9): 861-65.

⁵Kandelman D, Gagnon G. A 24-month study of the incidence and progression of dental caries in relation to consumption of chewing gum containing xylitol in school preventive programs. J Dent Res. 1990; 69(11):1771-775.

⁶Topitsoglou V, Birkhed D, Larsson LA, et al. Effect of chewing gums containing xylitol, sorbitol or a mixture of xylitol and sorbitol on plaque formation, pH changes and acid production in human dental plaque. Caries Res. 1983; 17(4): 369-78.

⁷Söderling E, Mäkinen KK, Chen CY, et al. Effect of sorbitol, xylitol and xylitol/sorbitol chewing gums on dental plaque. Caries Res. 1989; 23(5): 378-84.

⁸Park KK, Schemehorn BR, Stookey GK. Effect of time and duration of sorbitol gum chewing on plaque acidogenicity. Pediatr Dent. 1993; 15(3): 197-202.

⁹Fröhlich S, Maiwald HJ. Reversal of food induced plaque acidity by chewing gums. J Dent Res. 1992; 71(1 suppl.): 269 (Abstract #1309).

¹⁰Fröhlich S, Maiwald HJ, Flowerdew G. Effect of gum chewing on the pH of dental plaque. J Clin Dent. 1992; 3(3): 75-78.

¹¹Creanor SL, Strang R, Gilmour WH, et al. The effect of chewing gum use on in situ enamel lesion remineralisation. J Dent Res. 1992; 71(12):1895-900.

¹²Leach SA, Lee GT, Edgar WM. Remineralisation of artificial caries-like lesions in human enamel in situ by chewing sorbitol gum. J Dent Res. 1989; 68(6): 1064-068.

¹³Manning RH, Edgar WM. Salivary stimulation by chewing gum and its role in the remineralisation of caries-like lesions in human enamel in situ. J Clin Dent. 1992; 3(3): 71-74.

¹⁴Steinberg LM, Oduola F, Mandel ID. Remineralising potential, antiplaque and antigingivitis effects of xylitol and sorbitol sweetened chewing gum. Clin Prev Dent. 1992; 14(5): 31-34.

¹⁵Wefel JS, Jensen ME, Hogan M, et al. Effect of sugarless gum on human intra-oral demineralisation and remineralisation. J Dent Res. 1989; 68(1 suppl.): 214 (Abstract #263).

¹⁶Triolo P, Jensen M. Effect of chewing gum on food clearance from the dentition. J Dent Res. 1990; 69(1 suppl.): 136 (Abstract #220).

¹⁷Fox PC, Van Der Ven PF, Baum BI, et al. Pilocarpine for the treatment of xerostomia associated with salivary gland dysfunction. Oral Surg Oral Med Oral Pathol. 1986; 61(3): 243-48.

¹⁸Olsson H, Axéll T. Objective and subjective efficacy of saliva substitutes containing mucin and carboxymethylcellulose. Scand J Dent Res. 1991; 99(4): 316-19.

¹⁹Aagaard A, Godiksen G, Teglers PT, et al. Comparison between new saliva stimulants in patients with dry mouth: a placebo-controlled double blind crossover study. J Oral Pathol Med. 1992; 21(8): 376-80.

²⁰Dawes C, Macpherson LM. Effects of nine different chewing gums and lozenges on salivary flow rate and pH. Caries Res. 1992; 26(3): 176-82.



For more information, please visit our website:
www.extraoralhealthcareprogram.com.au

