



The Consumer Education Project Of Milk SA
www.rediscoverdairy.co.za

3-A-DAY™ Dairy may prevent tooth decay

October 2015

Most people know that drinking milk and eating dairy products like cheese, yoghurt and maas helps build strong bones and teeth, but what may not be well known is that having three portions of dairy products can continue to protect our teeth throughout life.

Causes of Tooth Decay

Tooth decay or dental caries (holes) and periodontal disease (infections of the gums which can lead to the loss of teeth), are still extremely common particularly in less advantaged populations who do not have access to fluoride (in drinking water and toothpaste) or good dental hygiene.

Unfortunately we all have pathogenic microorganisms, such as *Streptococcus mutans* in our mouths. *S. mutans*, which is classified as a cariogenic bacterium (i.e. a bacterium that causes erosion of tooth enamel that results in the formation of holes or caries), ferments sugars and other carbohydrates from food and drinks that remain in the mouth and, on and between the teeth after eating (deposits called “plaques”) to form acids that remove the minerals from our teeth (a process called “demineralisation”). Brushing our teeth helps to remove these cariogenic bacteria and reduce tooth decay, but we cannot brush our teeth all day long, so foods that help us counteract *S. mutans* are very useful. Dairy products like milk, yoghurt, maas and cheeses have anticariogenic properties that help us prevent dental caries and periodontal disease.

Do Dairy Foods/Drinks Counteract Tooth Decay?

The answer to this question is “Yes!”

Researchers have realised for a long time that milk products can boost dental health, as follows:

- A number of studies have compared milk or milk product intake with the incidence of tooth decay and found that populations who consume more milk products have fewer dental caries, because milk is “tooth-friendly” and reduces the acid content of plaque.
- Cheese in particular has anticariogenic and an enamel-protective effect by preventing acid increases in plaque which would attack tooth enamel. This is probably one of the reasons why humans learned to eat

The Milksplat is a regular newsletter of the Consumer Education Project

An Initiative by the Consumer Education Project Of Milk SA

Email: info@rediscoverdairy.co.za

Tel: (012) 991 4164

Fax: (012) 991 0878



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cheese at the end of a meal! Cheese not only stimulates the flow of saliva which counteracts plaque, but it increases the concentrations of calcium and phosphorus in plaque which then boosts tooth remineralisation.

- Milk, cheese, yoghurt and maas are rich in calcium which reduces gum disease and prevents loss of teeth.
- Some studies suggest that the minerals calcium and phosphate in milk and dairy products actually reverse the demineralisation process caused by *S. mutans* and may cause remineralisation of the teeth.
- A higher intake of yoghurt is linked to fewer dental caries in young children, the age group that is particularly vulnerable to tooth decay.

What Components in Dairy Foods Help Protect Our Teeth?

Firstly the high calcium and phosphorus contents of all dairy foods help to build strong teeth during the development of the baby in the mother's womb before birth. Subsequently the use of at least 3 portions of milk and/or dairy foods daily will ensure that our teeth and gums remain strong and healthy and do not succumb to tooth decay or periodontal disease.

Milk and dairy contain the following compounds that have been identified as “tooth-friendly”:

- Minerals such as calcium and phosphate
- Proteins, especially casein, and fats which are strongly anticariogenic
- Lactic acid, particularly in yoghurt, keeps our gums healthy.
- Bioactive components called proteose-peptones have a variety of protective functions including inhibition of tooth decay bacteria, protection of tooth enamel, buffering (i.e. keeping a balance between acid and alkaline) in the pellicle, which is a thin film of protein that forms around the tooth enamel and acts as a shield against acid attack, reduction of tooth demineralisation and an increase in tooth enamel remineralisation
- Probiotics (“beneficial microorganisms”) which are found in yoghurt that contains “live cultures” are able to displace *S. mutans* and other cariogenic microorganisms in the mouth to prevent them from attaching themselves to plaque and causing tooth decay. Use of fermented milk products is prescribed as a good method of preventing tooth decay.

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- Cow's milk contains a protein called lactoferrin, which is able to bind iron, and also prevents Gram-negative bacteria like *S. mutans* from sticking to teeth and causing caries.

How to Prevent Tooth Decay

To keep tooth decay at bay, make sure that you have 3 helpings of milk and/or dairy products a day, plus regular dental check-ups and good dental hygiene (brush teeth with fluoride toothpaste and floss after meals).

For more information on dairy and dental caries plus scientific references for this article, please visit www.rediscoverdairy.co.za and click on 'Dairy-Based Nutrition'.

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