

## Toothpaste with anticaries and remineralizing agents



Bowen & Pieren p. 86.

### ACTIVE INGREDIENTS:

#### • Fluoride

- Sodium fluoride (NaF)†
- Sodium monofluorophosphate (MFP)
- Amine fluoride (AmF)
- Stannous fluoride Preventive agent used in dentifrices and mouth rinses for its antiplaque, antisensitivity, and anticaries properties. Older stannous fluoride preparations stained teeth. A new formulation can repel stains

#### • Dentifrices contain calcium and phosphate derivatives or components to act as remineralizing agent.

- NovaMin: releases ions of calcium, phosphate, and sodium when exposed to saliva

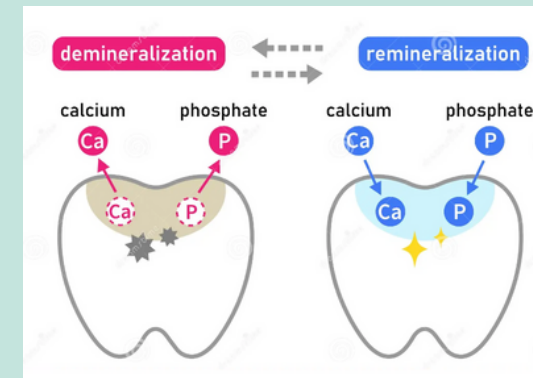
#### • xylitol

#### • Sodium bicarbonate

#### • Arginine

### Mechanism of action: How it works!

- Dentifrices containing calcium and phosphate and sodium technologies claim to enhance the bioavailability of calcium and phosphate ions for incorporation into the tooth surface. sodium is intended to buffer acid in the oral cavity and, over time, the calcium and phosphate ions are available to assist in remineralization and reduce dentinal sensitivity.
- Fluoride is the ingredient with the strongest evidence supporting its effectiveness in remineralization and caries prevention
- Sodium bicarbonate: (baking soda) neutralizes acids produced by acidogenic bacteria and has antibacterial properties. It can be delivered to extreme-risk clients (those at high risk plus dry mouth or special needs) in gum or toothpaste or in a solution for individuals with low salivary flow
- Xylitol: is a sweetener that looks and tastes like sucrose. It inhibits attachment and transmission of bacteria and can be delivered through chewing gum or lozenges as an effective anticaries therapeutic measure
  - Enhances remineralization
  - Inhibits the transfer of bacteria from person to person by altering the way the bacteria stick to surfaces
  - Inhibits future recolonization
- Arginine and calcium carbonate also have been shown to relieve dentinal hypersensitivity by occluding the dentinal tubules. This occurs when the arginine component triggers physical adherence of the calcium carbonate to the exposed dentin surface and to the inner surfaces of dentin tubules.



[LINK](#)

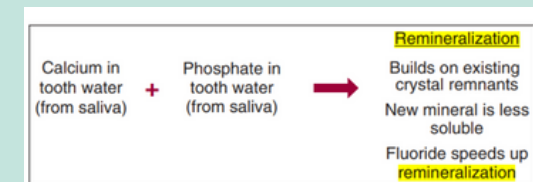


Figure 18-3. Remineralization and tooth repair.



Figure 18-4. A white spot lesion.

Bowen & Pieren p. 86.

## Contradictions:

Early childhood intake of fluoride supplements and fluoride levels greater than 0.7 ppm in drinking water are associated with the risk of mild to severe dental fluorosis. Ingesting greater than pea-sized amounts of toothpaste can lead to mild fluorosis in children younger than six (Toothpastes, n.d.).



## Who/what is this product recommended for?

This product is recommended for adults and children older than 6 months to prevent caries and promote remineralization in the enamel of teeth (Toothpastes, n.d.).

## ADA Seal or FDA approval, if applicable

- Many fluoride dentifrice products are submitted to the ADA Acceptance Program and, if they meet the required specifications, then obtain the ADA Seal of Acceptance as a symbol of a dental product's safety and effectiveness (Zero, 2006).
- It is a requirement that for a toothpaste to be ADA-Accepted it must contain fluoride (Toothpastes, n.d.).
- toothpaste may contain other ingredients that improve oral health such as lessening tooth sensitivity, reducing gingivitis or tartar build-up, or preventing enamel erosion; or that cosmetically affect the mouth such as whitening teeth or improving bad breath (Toothpastes, n.d.).
- Flavoring agents that cause or contribute to tooth decay (e.g., sugar) may not be contained in any ADA-Accepted toothpaste (Toothpastes, n.d.).



## Frequency and dosage

- We need to brush 2 times a day for anticaries/remineralizing toothpaste to be effective.
- Most products contain about 1000 ppm of fluoride (Bowen & Pieren, 2019)

## Where to buy!!

You can buy toothpaste with anticaries and remineralizing agents at any drugstore or through these following links!

[COLGATE](#)  
[CREST](#)  
[SENSODYNE](#)



# REFERENCES:

Toothpastes. (n.d.). American Dental Association.

<https://www.ada.org/en/resources/research/science-and-research-institute/oral-health-topics/toothpastes>

Zero DT. (2006). Dentifrices, mouthwashes, and remineralization/caries arrestment strategies. *BMC Oral Health*.6 Suppl 1(Suppl 1):S9. doi: 10.1186/1472-6831-6-S1-S9.

Bowen, D. M., & Pieren, J. A. (2019). *Darby and Walsh Dental Hygiene: Theory and Practice*. Saunders.