

DEMINERALIZATION AND REMINERALIZATION OF TOOTH ENAMEL

WHAT IS DEMINERALIZATION? Demineralization is the process of removing minerals from dental enamel. "Demineralization" is another term for "dissolving the enamel." Dental enamel is a crystalline latticework composed of various minerals, the principal component of which is a complex calcium phosphate mineral called hydroxyapatite ("hydrox-e-appetite"). When too much of this mineral is lost from an area of the hydroxyapatite latticework, you have a cavity. Fortunately, the latticework can be strengthened and restored through the process of remineralization.

WHAT IS REMINERALIZATION? Remineralization is the process of restoring minerals to the hydroxyapatite latticework structure. Remineralization is like replacing the missing rungs in a rickety ladder to make it strong and stable again. Taking mineral supplements has virtually no impact on remineralizing the teeth.

WHAT CAUSES DEMINERALIZATION? Any kind of acid: To a certain extent, these are found in acid foods, such as tomatoes or oranges and other citrus fruits; but they're also formed by the mouth bacteria that feed on starches and sugars in your mouth, especially refined sugars, secreting acids as by-products. They are also present in all soft drinks which universally contain phosphoric acid. Yes even a diet soft drink has a strong de-mineralizing affect on your teeth.

HOW DOES THE BODY FIGHT DENTAL DEMINERALIZATION? To counter demineralization, the body had to solve an interesting problem: The solution is so simple, and so invisible that you don't even realize it's happening! This natural mechanism is enhanced by eating foods, rich in minerals, including trace minerals, such as natural and organic foods. These minerals end up in your saliva which bathe the teeth and the minerals that are lost can be re deposited back into the tooth structure!

REMINERALIZATION GEL: New technologies have created pharmaceutical grade remineralization gel containing an ingredient called amorphous calcium phosphate which is a natural material that will redeposit the lost minerals into the tooth enamel. It is most effective if it can be held around the enamel for 10-15 minutes at a time by using a custom fitting flexible retainer that holds the gel around the tooth to harden and "armor plate" soft enamel so that the teeth are more resistant to tooth decay.

- **REMINERALIZATION GEL INSTRUCTIONS:** Rinse out your trays before applying a very small bead in the front and back of the trays. Place the trays in your mouth for 10-15 minutes. Remove the trays and **do not** rinse mouth. This allows the mineral film to remain on the teeth for added absorption.
 - Afterwards wash and rinse mouth trays thoroughly. We recommend that you remineralize just before going to bed for a thorough nighttime demineralization process. When just starting do this every day for one week. Then continue to remineralize once a week thereafter for harder and stronger enamel.
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