

Fluoride: How Much is Enough?

There is no question that fluorides reduce dental decay. But parents often wonder whether or not there are additive effects of fluoride. In other words, are fluoride treatments at the dentist's office beneficial when there is fluoride in the water? Are fluoride mouthrinses helpful when there is fluoride in the toothpaste?

Before answering these questions, it is important to understand how fluoride works. First, there are "systemic fluorides." These fluorides are swallowed and are distributed via the bloodstream to the teeth that are developing in the jaws. The developing teeth are made stronger and more resistant to decay before they ever erupt into the mouth. Systemic distribution of fluoride is accomplished by fluoride in the water, fluoride tablets, and vitamins that contain fluoride.

Teeth can also be made stronger by use of "topical fluorides." These fluorides are applied directly to the teeth, and make the enamel harder and more resistant to demineralization and decay. Examples of topical fluorides include fluoride toothpastes, topical gels applied at the dental office, and fluoride mouthrinses.

In answer to the original question, scientists are certain that fluoride effects are additive and that no single treatment or procedure provides maximal decay control. Exactly how much protection each adds upon the other may be debatable, but the following figures taken from scientific research projects demonstrate the significant benefits of fluoride. Properly fluoridated water reduces decay by about 50 to 60%, fluoride gels given at the dentist's office twice each year can reduce decay by 40%, at least a 25% reduction in cavities can be expected from an ADA-approved fluoride toothpaste, fluoride mouthrinses show about a 35% decay reduction.

It is important that children not swallow toothpaste because it is possible to get too much fluoride in the system and cause discoloration of the teeth. In addition, children should be monitored to use only a pea-sized amount of toothpaste when brushing. This child had excess systemic fluoride, resulting in discoloration of the teeth.



Fluoride is very effective in preventing cavities, especially when combined with good brushing and flossing, pit and fissure sealants, and good dietary habits. They are also considered completely safe when properly used.