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Is topical fluoride treatment worth it?

When it comes to protecting your teeth, fluoride works. By *Susan Maples*

Q: While I'm trying to conserve money, I also want to do what's best for my child. Is the topical fluoride treatment really worth it?

A: In a single word, "YES!" As a cavity-buster, topical fluoride is arguably the greatest value of the entire preventive (cleaning) appointment, although oral hygiene instruction and a good clinical examination are essential too. Fluoride inhibits decay, de-sensitizes teeth and inhibits the metabolism of cavity-causing bacteria. So let's have a look—the rationale as well as the pros and cons of the many different fluoride delivery systems.

Historically we saw systemic fluoride (ingested from our public water) as more beneficial than topical (surface absorbed) fluoride. Topical application might even be winning the research contest these days, although we still praise the benefits of systemic fluoride.

Systemic fluoride incorporates into growing enamel (*before eruption*), to create an inherently stronger, more cavity-resistant structure than natural enamel. It procures a 40-60% lifetime protection from decay. Dentists and pediatricians recommend water testing for families without a municipal water supply (to rule out excessive natural earth fluoridation). For kids without fluoridated water we prescribe fluoride supplements (drops or tablets) during the enamel-forming years. I really recommend a professionally calculated prescription, as too much fluoride can cause "fluorosis" resulting in permanent yellow/brown spots on teeth.

Topical fluoride is that which is absorbed into the enamel structure *after eruption*. It soaks into the rods (pores) of the enamel but it must be continually replenished throughout life. Topical fluoride has grown in importance for children and adults alike—mostly because our diets have become so acidic. Think of the many juices, sports drinks, sodas and diet sodas we consume.

One particular experience made an indelible impression on me. In our children's science Hands-On Learning Lab, our kids place a fluoride-soaked egg and a plain egg into a beaker of acid (white vinegar). The natural eggshell bubbles up, fizzes and even begins to spin, while the fluoride-soaked egg sits, inert like a rock, completely protected!

So how do we get topical fluoride? Tap water is one source. Toothpastes and over-the-counter rinses are another. Better sources are the professionally applied foams, gels, rinses and varnishes, applied to clean enamel surfaces every six months—varnishes being perhaps the best. Kids and adults who are cavity prone can increase topical exposure with a home fluoride product. Let your dentist help you determine the best fluoride protection plan for you personally.