An Uncertain Verdict



orries about toxins are all around us. It seems that everyday, news stories report a new chemical threat in the clothes we wear, the air we breathe, the water we drink or the bottles we drink it out of. These emerging contaminants seem to be popping up all over the place. But what about chemicals we have known about for years-especially the ones we intentionally put in our drinking water?

The chemical to which I refer is fluoride. Municipalities began adding the compound to water supplies approximately 70 years ago in order to improve dental health. The initiative had great benefits and was certainly a boon to dentists across the nation as tooth decay declined and dental health improved. In fact, the Centers for Disease Control and Prevention named fluoridation of

public drinking water supplies one of the 10 greatest health achievements of the 20th century.

In the modern day, doubts are growing as to how much fluoride we should add to water-or if we should add it at all. For all of its positive attributes, fluoride does have drawbacks. Too much fluoride can lead to a condition called fluorosis, which results in white spots or marks on teeth. In severe cases, although rare in the U.S., fluorosis causes teeth to become pitted or stained. Today, fluoride also is available from sources besides drinking water, such as toothpastes or treatments from dentists, meaning that there is potential for people-especially children-to have too much.

So is fluoride a "good guy" or a "bad guy"? The verdict seems uncertain. Even the U.S. Environmental Protection Agency is somewhere in the middle-while it does have maximum contaminant level goals and secondary (non-enforceable) standards for fluoride, it does not have authority over whether a municipality chooses to fluoridate its water. The U.S. Department of Health and Human Services does recommend a level, but is in the process of reviewing that recommendation.

A recent news story in The New York Times ("Preschoolers in Surgery for a Mouthful of Cavities," March 6, 2012) implies that fluoridation of water is still needed—it reported that many toddlers were visiting dentists' offices with 10 or more cavities. It cited a variety of reasons-kids drinking more soda and juice, kids drinking non-fluoridated bottled water-but the overwhelming reason seemed to be that parents were unaware that their children needed dental care, even when they had only a few teeth. In this example, keeping fluoride in tap water helps mitigate such problems.

One of the many arguments of anti-fluoride advocacy groups, such as the Fluoride Action Network, is that tap water fluoridation is unethical, as it removes peoples' choice as to whether or not they receive this medication, and it is difficult to control how much an individual ingests.

In fact, there are option available to consumers who do not want fluoride in their water. Many brands of bottled water do not contain fluoride, giving consumers the opportunity to choose (the International Bottled Water Assn. lists non-fluoridated brands on its website, www.bottledwater.org). In addition, treatment methods such a reverse osmosis and distillation can remove fluoride from water. The anti-fluoride camp does argue that fluoridation may have more detrimental effects on lower-income populations, as they are less able to afford these options, however.

So what is the answer to the fluoride question? Because individual state and local governments are able to make their own decisions about whether or not to fluoridate, the country many never come to a consensus. No matter which side of the issue you are on, as water treatment professionals it is important to know the fluoride status of local tap water, as well as learn about both sides of the issue, in order to educate customers and offer solutions for those who are concerned about the levels in their water.

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