

THE DISCOVERY OF FLUORIDE

Dear Dr. McCrummen: Please write about how fluoride became popular to fight cavities. How do I know it is safe to use? Thank you. B.C.

It started with an observation in 1901 and proved to be a major break-through in preventive medicine by 1951.

An east-coast dental graduate, Dr. Fredrick McKay, moved to Colorado Springs, Colorado, to start a dental practice. He discovered that many people there had brown stains on their teeth. The local residents blamed the problem on such things as eating too much pork, low quality milk, and iron-rich water.

In 1909, a well known dental researcher, Dr. G. V. Black, came to work with Dr. McKay to help find the cause. He found "Colorado Brown Stain" occurred in most of the native-born residents. They discovered the "mottled enamel" occurred during the development of the teeth, and the teeth were very hard and highly resistant to cavities.

Dr. McKay suspected that it was due to something in the water, but their basic tests did not detect anything unusual. Over several years he explored many Rocky Mountain towns looking for more people with stained teeth. In 1923 he went to Oakley, Idaho, to speak with parents that started to notice brown stains on their children's permanent teeth. The stains appeared within a few years after the town had water piped from a new spring five miles away. The water was tested and nothing unusual was found, but he recommended that they use the water from the original source. Within a few years the young children stopped developing brown stains. Dr. McKay was then sure it was coming from something in the water.

A report came from Bauxite, Arkansas, that the children there had brown, hard teeth, but none were noted in a town five miles away. The ALCOA aluminum plant "chief chemist" conducted a test using new technology, a photospectrometer, and found very high levels of naturally occurring fluoride in the water. In 1931, Dr. McKay collected many samples of water from Colorado communities that had the brown teeth problems, and also found very high levels of fluoride there.

Fluoride is a naturally occurring element found in rocks and soil, and is commonly found in water sources. The Public Health Service (PHS) and the National Health Institute (NHI) did more research and found that fluoride did, in fact, harden teeth, harden bones (fewer bone fractures occurred in areas with fluoridated water), and there were no health problems associated with very high levels of fluoride. Research was conducted across the United States, and by the late 30's it was determined that a very small amount of fluoride in the water made the teeth cavity-resistant and did not discolor them.

In 1945, the City Commission of Grand Rapids, Michigan, voted to add fluoride to their municipal water supply and became the first city in the world to do this. It was sponsored by the U.S. Surgeon General (USSG) and conducted by the National Institute of Dental Research (NIDR). After 11 years, cavities dropped by more than 60% in the 30,000 school children that were monitored. It was a major scientific break-through that made decay a preventable disease.

Today, fluoride continues to be a major weapon in the battle against tooth decay worldwide. It is the most thoroughly studied subject, over the most years, using the most participants, of any other chemical/medicine to benefit the health of mankind. In the proper concentrations it is completely safe. Fluoridation was ranked "one of the top 10 major discoveries" in healthcare in the 20th Century by the Center for Disease Control (CDC, 1999), thanks to the curiosity of Dr. Fredrick McKay over 100 years ago.

There are no major medical organizations that disapprove of the appropriate levels of fluoride in community water supplies, taking supplements as needed in deficient areas, or putting fluoride directly on teeth. The World Health Organization, USSG, PHS, NHI, NIDR, CDC, the American Medical and Dental Associations, as well as many other well respected research groups, and all of the dentists around the world that want to help reduce cavities approve of and recommend fluoride. Who would know better about the benefits and safety of fluoride than these large independent organizations that have funded and studied major unbiased research and have seen the results over many years, worldwide?

