



## Connecting the Drops

**Transcript: Fluoridation One Strategy for Improving Public Health, Experts Say**  
**Dana Cronin and Holly Pretsky**

**January 2017**

Oral health falls under Governor John Hickenlooper's Top 10 Winnable Battles for health ([LINK: https://www.colorado.gov/pacific/cdphe/colorados10winnablebattles](https://www.colorado.gov/pacific/cdphe/colorados10winnablebattles)) in Colorado. Consuming fluoride in water is one safe and inexpensive way to help prevent dental decay, according to public health experts, and it was discovered right here in Colorado.

At the Pioneers Museum in downtown Colorado Springs, director Matt Mayberry holds up a century-old slide to the light. It belonged to Colorado Springs dentist Frederick McKay in the early 1900s.

It shows what looks like a child's mouth with lips pulled apart, teeth exposed. The teeth are covered in brown spots.

"As he was working on children in Colorado Springs," Mayberry says, "he would notice that many of our Colorado Springs kids had brown-stained teeth. It went on to become known as the 'Colorado brown-stain.'"

McKay also noticed that despite the unsightly appearance of their teeth, these patients had fewer cavities than patients he had treated elsewhere.

He eventually discovered that the staining came from fluoride his patients were getting in their drinking water through Pikes Peak granite.

"Fluoride's a naturally occurring mineral," says Dr. Jeff Kahl, a pediatric dentist and an executive committee member of the Colorado Dental Association. "Tooth structure that has fluoride incorporated into it as part of that chemical reaction is actually more resistant to the acids from bacteria. It makes the teeth harder, stronger."

And it doesn't always discolor teeth, not if it's at the proper concentration. Those brown stains are formally called dental fluorosis. They appear when teeth are exposed to water with fluoride levels higher than two parts per million. According to the American Dental Association, the optimal level of fluoride to help protect teeth without causing dental fluorosis is .7 parts per million.

Katya Mauritsen works in the oral health division of the Colorado Department of Public Health and Environment, which encourages communities to make sure there's enough fluoride in the drinking water.

“Water fluoridation has always been shown to be very cost effective,” Mauritson says. “It was shown by the Centers for Disease Control and Prevention as one of the top ten public health interventions of the 20th century.” (LINK: <https://www.cdc.gov/fluoridation/index.html>)

Many water systems, including those in Denver, Fort Collins, and Pueblo, add fluoride to their drinking water to meet optimal levels.

Because Pikes Peak granite naturally has a lot of fluoride, Colorado Springs Utilities sometimes dilutes its water with water from other sources.

### **Monitoring Fluoride**

At Fountain Creek in Colorado Springs, Corey Thiel submerges several bottles beneath the surface of the partially frozen water. Thiel is an environmental technician at Colorado Springs Utilities.

Thiel is demonstrating how he gathers samples from water sources to do physical, chemical, and microbiological analysis at the lab.

He says they check fluoride levels about once a week.

Due to that fluoride-rich Pikes Peak granite, Thiel expects results to typically show Colorado Springs water at well above the optimum level or .7 parts per million.

However, nowadays, the majority of the city’s residents, those living in the north and northeast parts of the city, get water with levels far below that.

Rick Johnson supervises water analysis at Colorado Springs Utilities. He says the water serving those areas doesn’t actually come from the Pikes Peak region.

“Colorado Springs having high fluoride concentration in one area and lower fluoride concentration in another part of the city is due to the fact that we bring in different sources of water,” he says.

So Johnson says, while about 20% of residents of the city are drinking local water, the other 80% are drinking transmountain water from across the state. Some are getting lots of fluoride, but most are barely getting any, and the city doesn’t add fluoride.

Katya Mauritson with the state’s health department says Colorado currently ranks 27th in the nation as to the percentage of residents with access to optimally fluoridated water. (LINK: <https://www.cdc.gov/fluoridation/statistics/2014stats.htm>)

As for the 10 Winnable Battles, the goal is to have almost 80% of water systems in the state fluoridated by 2020. Mauritson says they’re on track to meet that goal.

*Connecting the Drops is a collaboration between Rocky Mountain Community Radio Stations and the Colorado Foundation for Water Education. Find out more at [YourWaterColorado.org](http://YourWaterColorado.org). Support for this is provided by COBank.*