

Community Water Fluoridation

Presented by:
Katya Mauritsen, DMD, MPH(c)
Oral Health Program Section Manager
September 30, 2014
Loveland Utilities Commission



Community Water Fluoridation

- Rules
 - EPA
 - HHS
 - State
 - Additives
- Why Water Fluoridation?
- Evidence-Based Public Health



What is Fluoride?

- Fluoride is a natural element found in the earth
- Fluoride is found in all natural water sources
- Optimally fluoridated water is not toxic or harmful.
- Not all communities have sufficient naturally occurring fluoride for cavity protection
- Community Water Fluoridation is the adjustment of natural water fluoride for the prevention of cavities



EPA (Environmental Protection Agency)

- EPA focuses on safe water and contaminant levels that result in unfavorable health outcomes
- National Primary Drinking Water Regulation (4.0mg/L)
 - ▢ Enforceable upper limit; based on MCGL; potential adverse health effect with chronic exposure
- National Secondary Drinking Water Regulation (2.0mg/L)
 - ▢ Cosmetic; non-enforceable limit; focus on natural levels
- The Colorado Primary Drinking Water Regulations (5 CCR 1003-1) require:
 - ▢ Surface Water: Annual testing
 - ▢ Ground Water: Once every 3 years



HHS (Department of Health & Human Services Centers for Disease Control)

- Recommended Optimum Level
 - 1945 - 1.0 mg/L
 - Dental research consensus
 - 1962 - 0.7 to 1.2 mg/L
 - US PHS Standards, temperature-dependent
 - 2011 - 0.7 mg/L
 - US HHS PROPOSED Recommendation
- Benefits begin at 0.5mg/L
- No significant increased benefit above optimal levels
- CDC recommends control range 0.1 mg/L below to 0.1 mg/L above optimum level



Fluoride Additives Standards

- American Water Works Association - specifies product quality as purchased
 - Sodium Fluoride
 - Sodium Fluorosilicate
 - Fluorosilic Acid
- NSF/ANSI 60-2005 specifies purity and product integrity in distribution (National Safety Foundation/American National Standards Institute)



Colorado Fluoridation Program

- Water fluoridation is a state program, not a federal program
- Local Decision
- Participating water systems:
 - Sample/test levels daily (CDC & AWWA recommended)
 - Send monthly reports to the State
 - Send monthly split samples to the State Lab
 - State recommends a control range of 0.1 mg/L below to 0.2 mg/L above target level
 - Equipment inspections every 3 years
- Equipment Grants



For the best prevention of tooth decay...

frequent exposure to *low concentrations* of fluoride



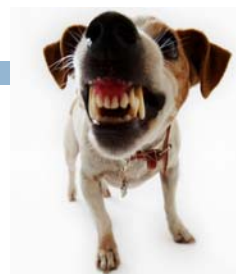
Ideal Public Health Measure

- No compliance required - do not have to DO anything - just drink and use the water
- Benefits everyone - young & old
- Safe
- No access to care issues
- Inexpensive
- True cost savings



In Perspective

- Nearly all Dental Disease is **100% Preventable**
- Cavities (tooth decay): the most common chronic disease of childhood
- Tooth decay remains a **chronic, infectious disease** across all age groups
- Oral Health has been linked to multiple systemic conditions and chronic diseases



Is it Safe?

Does Fluoride
Cause.....
(insert awful disease
here)

- Cancer
- Heart Disease
- Thyroid Disease
- Osteoporosis
- Kidney Disease
- Low IQ
- "Mushy Brain"
- Male Pattern Baldness
- Socialist tendencies

Over 65 years of
research and
studies have
shown no causal
relationship
between optimal
fluoride and any
of these
problems.



Strength of the Evidence

Over 65 years of research and studies

Water fluoridation



1. Evidence by multiple systematic reviews
2. Evidence by a systematic review
3. Evidence by a peer reviewed study
4. Evidence by a non-peer reviewed study
5. Evidence by "person-who"

How do you
decide if it
is opinion
or science?



Summary: Community Water Fluoridation

- Local decision in Colorado
- Water system participation in state program
- Prevention/reduction of cavities
- Benefits all members of the community - young, old, rich, poor, tall, short
- Supported by decades of research
- Economical (cost-savings)



Oral Health Unit
Colorado Department of Public Health
& Environment
Cdphe.psfluoridationsmf@state.co.us
303-692-2470

Contact Us

