Drinking Water Fluoridation
Greer Commission of Public Works
Public Affairs Advisory

Who: U.S. Department of Health and Human Services
What: Final recommendation for optimal fluoride level
When: Released today April 28, 2015

• The U.S. Department of Health and Human Services announced today the final U.S. Public Health Service recommendation for the optimal fluoride level in drinking water. Water utilities should prepare for potential media and customer inquiries prompted by the announcement.

The recommendation is for the same level that was proposed in January of 2011, a single level of 0.7 milligrams of fluoride per liter of water. This recommended level replaces the previous recommended range (0.7 to 1.2 milligrams per liter) issued in 1962.

According to today’s HHS press release, “the change was recommended because Americans now have access to more sources of fluoride, such as toothpaste and mouth rinses, than they did when water fluoridation was first introduced in the United States. As a result, there has been an increase in fluorosis, which, in most cases, manifests as barely visible lacy white marking or spots on the tooth enamel. The new recommended level will maintain the protective decay prevention benefits of water fluoridation and reduce the occurrence of dental fluorosis.”
According to HHS, community water fluoridation “has led to such dramatic declines in both the prevalence and severity of tooth decay that the U.S. Centers for Disease Control and Prevention named it one of 10 great public health achievements of the 20th century.” The recommendation was published today in Public Health Reports.

AWWA supports the recommendations of the CDC, the American Dental Association (ADA) and other public health organizations for the fluoridation of public water supplies as a public health benefit, subject to community acceptance. See AWWA’s Public Policy statement for more information.

The following resources are available for more information on water fluoridation:

- CDC’s fluoride info page
- ADA’s fluoride info page
- EPA’s fluoride info page
- Health Canada’s fluoride info page
- DrinkTap.org fluoride info page

Questions can be directed to AWWA’s director of communications, Greg Kail, at 303-734-3410.
History

• Early 20th century studies of “Rocky Mountain Mottled Teeth” suggested water supplies may be the cause but these studies also indicated that tooth decay rates were lower in areas with greater staining.

• Investigated water properties in areas where staining was prevalent found the common factor to be high levels of fluoride (e.g. 13.7 mg/l).

• Further studies by U.S. Public Health Service found that a fluoride concentration of 1 mg/l allowed for reduction in tooth decay while avoiding mottling.

• Grand Rapids Michigan became the first town in the world to artificially fluoridate drinking water.

• In 1962 the U.S. Department of Health and Human Services suggested a drinking water fluoride dosage range of .70 – 1.20 mg/l.

• Greer CPW water treatment plant began fluoridating in 1975.
Systemic vs. Topical

- Tooth decay occurs when bacteria break down sugars to form an acid, dissolving enamel and causing demineralization. Fluoride works with the tooth’s enamel to re-mineralize and slow down cavity formation.

- Initial studies determined that a systemic application, such as ingesting fluoridated water was the ideal form of delivery.

- More recent studies have proven that fluoride’s method of action requires direct topical application, hence toothpaste, mouth wash, and fluoride treatment at a dentist.

- Though ingested fluoride will still makes it way back to the mouth through saliva, it must travel though the rest of the body (intestines and blood stream) to get there.
Facts

• The potential for tooth staining begins at 10 mg per day

• Fluoride successfully decreases instances of dental caries, strengthens teeth, and plays an important role in dental health.

• Drinking water fluoridation is encouraged by AMA, ADA, AWWA, and SC DHEC.

• More people consume fluoridated drinking water in the U.S. than the rest of the industrialized world combined.

• Drinking water fluoridation is not required by federal and state regulatory agencies.

• Although AWWA supports the fluoridation of public water supplies as a public health benefit AWWA also acknowledges it is subject to individual community acceptance.

• Fluoride is readily available in many over the counter products.

• The maximum fluoride limit in drinking water established by state and federal regulatory agencies is 4.0 mg/l.

• Greer CPW currently targets the recommended dosage of .70 mg/l fluoride in its finished drinking water.
Availability

- Fluoridated toothpaste (95% of all toothpastes contain fluoride)
- Fluoridated mouth wash (from 230 – 1000 mg/L)
- Fluoride dental treatments
- Black tea, brewed, regular, all (1.0 – 6.0 mg/l)
- Black tea, instant, powder (5.84 mg/l)
- Concord grape juice (1.95 mg/l)
- Orange Juice (.98 – 1.20 mg/l)
- Diet Cola (.72 mg/l)
- Alcoholic beverage, wine, white (2.02 mg/l)
- Vegetables and Vegetable products (.20 - .50 mg per med. size serving)
- Seafood (1.2 mg/l in oceans)
- Processed beverages and foods produced with fluoridated drinking water contain varying levels of fluoride.
  (sodas, juices, sports drinks, energy drinks, beer, and some infant foods)

For the entire USDA database go to:
http://www.ars.usda.gov/SP2UserFiles/Place/80400525/Data/Fluoride/F02.pdf
Fluoridation in Other Systems

- Drinking water fluoridation is not required by state and federal regulatory agencies.

- South Carolina
  - The Majority of large water systems in S.C. continue to fluoridate
  - The Majority of rural, locally governed community water systems in South Carolina do not fluoridate
  - Bishopville, S.C. ceased fluoridation in June 2001

- U.S. and foreign systems that have stopped fluoridation

<table>
<thead>
<tr>
<th>City, State</th>
<th>Population</th>
<th>Date</th>
<th>City, State</th>
<th>Population</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honolulu, Hawaii</td>
<td>300,000</td>
<td>1/28/2004</td>
<td>College Station, Texas</td>
<td>100,000</td>
<td>9/22/2011</td>
</tr>
<tr>
<td>Napa, California</td>
<td>77,900</td>
<td>8/17/2010</td>
<td>Spring Hill, Tennessee</td>
<td>30,000</td>
<td>8/15/2011</td>
</tr>
<tr>
<td>Calgary, Canada</td>
<td>1,300,000</td>
<td>2/08/2011</td>
<td>Portland, Oregon</td>
<td>900,000</td>
<td>5/21/2013</td>
</tr>
<tr>
<td>Fairbanks, Alaska</td>
<td>80,000</td>
<td>6/06/2011</td>
<td>Israel</td>
<td>7,900,000</td>
<td>8/26/2014</td>
</tr>
<tr>
<td>Santa Fe, NM</td>
<td>66,682</td>
<td>7/11/2012</td>
<td>Japan</td>
<td>127,000,000</td>
<td>No Fl</td>
</tr>
<tr>
<td>Albuquerque, NM</td>
<td>500,000</td>
<td>4/11/2010</td>
<td>European Countries</td>
<td>97%</td>
<td>No Fl</td>
</tr>
<tr>
<td>Wichita, Kansas</td>
<td>385,000</td>
<td>11/6/2012</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For more information go to: [http://fluoridealert.org/content/communities/](http://fluoridealert.org/content/communities/)