

**No. 6, Spring 2006**

**To: State Water Fluoridation Programs, State Dental Directors,  
State Drinking Water Programs**

**Subject: Program Update—CDC Community Water Fluoridation**

The Centers for Disease Control and Prevention (CDC) Community Water Fluoridation (CWF) Program is administered by the Division of Oral Health of the National Center for Chronic Disease Prevention and Health Promotion. The CWF Program periodically issues this update on program activities and resources for water fluoridation specialists, engineers with state drinking water programs, and state oral health officials. Please feel free to forward this communication to any staff member or other person who might benefit from it.

### **NRC Report on High Fluoride Levels in Drinking Water**

On March 22, 2006, the National Research Committee of the National Academy of Sciences released a report recommending that the Environmental Protection Agency (EPA) review the basis for the Maximum Contaminant Level Goal for fluoride in drinking water to include severe dental fluorosis as an adverse health effect. This was a report requested and funded by the EPA. The report specifically states that its purpose is not to question water fluoridation at levels beneficial for oral health, but to address the very high fluoride levels naturally occurring in some ground waters that are consumed by approximately 1% of the U.S. population on community water systems, according to estimates by the EPA. The report adds to the body of knowledge on the safety of water fluoridation to promote good oral health and you can view CDC's statement on it at [http://www.cdc.gov/oralhealth/waterfluoridation/safety/nrc\\_report.htm](http://www.cdc.gov/oralhealth/waterfluoridation/safety/nrc_report.htm). The American Water Works Association also presented a webcast on the NRC report and water fluoridation on May 3, 2006, with speakers Dr. John Doull of the NRC Committee, Kip Duchon of the CDC, and Dave Heumann of the City of Los Angeles. To view the archive version of this webcast, please contact Linda Berridge at [lberridge@awwa.org](mailto:lberridge@awwa.org).

### **Recent Publications on Water Fluoridation**

In addition to the recently published NRC report, two new publications may be of interest to water system operators or state water fluoridation programs.

Over the past year, there have reports of an unpublished study from Dr. Elise Bassin of Harvard University that suggested an association between drinking fluoridated water and osteosarcoma in adolescent males. This study, "Age-specific fluoride exposure in drinking water and osteosarcoma," was published in the May 2006 issue of *Cancer Causes and Control*, and can be accessed at [http://www.springerlink.com/\(rkn0ha45ld0yeliqycma145\)/app/home/contribution.asp?referrer=parent&backto=issue,7,30;journal,2,124;linkingpublicationresults,1:100150,1](http://www.springerlink.com/(rkn0ha45ld0yeliqycma145)/app/home/contribution.asp?referrer=parent&backto=issue,7,30;journal,2,124;linkingpublicationresults,1:100150,1). A related letter to the editor from Dr. Chet Douglas, the principal investigator on a broader Harvard osteosarcoma study, can also be viewed, at [http://www.springerlink.com/\(rkn0ha45ld0yeliqycma145\)/app/home/contribution.asp?referrer=par](http://www.springerlink.com/(rkn0ha45ld0yeliqycma145)/app/home/contribution.asp?referrer=par)

[ent&backto=issue,13,30;journal,2,124;linkingpublicationresults,1:100150,1](#). This letter provides a cautionary perspective when interpreting the findings of the Bassin paper. CDC has issued a statement on the Bassin paper, which can be viewed at [http://www.cdc.gov/oralhealth/waterfluoridation/fact\\_sheets/osteosarcoma.htm](http://www.cdc.gov/oralhealth/waterfluoridation/fact_sheets/osteosarcoma.htm)

Another publication of interest relates to the question of whether hexafluorosilicate dissolves to release fluoride similar to sodium fluoride, and if fluorosilicate intermediates remain that could result in biological effects. The EPA funded research by William Finney, et al., whose paper, "Reexamination of hexafluorosilicate hydrolysis by  $^{19}\text{F}$  NMR and pH measurement," is published in *Environmental Science Technology* (2006;40:2572–2577). The researchers failed to observe intermediates at  $10^{-5}$  molar concentrations, under excess fluoride-forcing conditions over the pH range of 3.5–5 using  $^{19}\text{F}$  NMR spectroscopy. This means that if fluorosilicic acid or sodium fluorosilicate are used for water fluoridation, they will completely dissociate to a benign fluoride ion similar to sodium fluoride and they will not reform with the pH found in most foods and beverages.

### **Water Fluoridation Training**

The CDC-sponsored course on basic community water fluoridation, **Water Fluoridation: Principles and Practices**, will next be conducted at the Murfreesboro, Tennessee, training facility during the week of October 23–27, 2006. The course is intended to build the skills needed to manage and operate a state water fluoridation program and to train engineers in fluoridation engineering principles. This training will not be held in Sacramento, California, during 2006, but will be conducted there the week of March 26–30, 2007. Attached to this newsletter is an Adobe Acrobat announcement on the upcoming CDC training.

To augment its training programs, CDC has developed and distributed a Water Treatment Facility Operator Training Course on CD-ROM. The course can be used by state programs to train water treatment facility operators. It includes lecture notes and PDF files for preparing handouts. This is not a self-study course, but a resource for trainers. If you are a fluoridation trainer, you can request a copy of the CD-ROM from your state oral health or drinking water programs, or contact CDC by e-mail at [OralHealth@cdc.gov](mailto:OralHealth@cdc.gov) or by telephone at 770-488-6054.

### **Water Fluoridation Poster**

The CDC water fluoridation poster program for water treatment facility operators has been distributed by approximately half the state programs over the first year of roll-out. The poster was customized with specific information for each state. The American Water Works Association, the National Rural Water Association, and the Association of State and Territorial Dental Directors all provided useful suggestions for the content of the poster, and all are our partners in this effort. The states that have distributed the posters have reported very favorable comments from the operators. If you have not distributed the poster, please contact CDC at [OralHealth@cdc.gov](mailto:OralHealth@cdc.gov) to request another copy of the

templates for your state or to request customizing that may be necessary before you can distribute them to the operators in the state.

### **2004 State Water Fluoridation Report**

CDC has been working with state programs to update the information in the Water Fluoridation Reporting System for use in compiling the *2004 National Fluoridation Report*. The remaining data coordination issues have been resolved, and the 2004 report should be issued in the next few months. The methodology used for this fluoridation report makes this the most accurate national report to date, and its use in the future will ultimately result in subsequent reports being issued more quickly.

### **Please Contact Us with Questions or Comments**

If you have questions or require assistance regarding community water fluoridation, please visit our Web site at [www.cdc.gov/OralHealth/index.htm](http://www.cdc.gov/OralHealth/index.htm) or call us at 770-488-6054.