

Fluoridation Questions & Answers

What is water fluoridation?

Fluoride is a common mineral and occurs naturally in all water and many foods. Water fluoridation is the process of adjusting the amount of fluoride in the water to the 1 part per million (ppm) concentration recommended for best protection against tooth decay. The beneficial dental effects of fluoride were discovered early in the twentieth century. In 1949 Charlotte became the first city in North Carolina to adjust the amount of fluoride in its drinking water to 1 ppm. By 2008, over 88% of North Carolinians who drink water from local water systems were receiving the benefits of fluoride.

How does water fluoridation work?

Fluoride protects teeth from decay by strengthening tooth enamel and making it more resistant to the acids that are produced by bacteria that occur naturally in our mouths. During childhood while teeth are forming, fluoride becomes a permanent part of the tooth enamel. After the teeth are formed, fluoride strengthens and repairs the enamel on the surfaces of teeth. Both children and adults of all ages benefit from fluoridation.

Is water fluoridation safe?

Fluoridation has been studied for over sixty years - more thoroughly than any other public health measure. The overwhelming weight of credible scientific evidence indicates that fluoridation of community water supplies is safe and effective. People against fluoridation have used scare tactics, such as claims that fluoridation causes heart disease, cancer, and even AIDS. Of thousands of credible scientific studies on the safety of fluoridation, none has shown health problems associated with the consumption of optimally fluoridated water. The last five U.S. Surgeons General of the United States and the Centers for Disease Control and Prevention (CDC) recommend fluoridation. It is also supported by the American Dental Association, the American Medical Association, the American Cancer Society, the American Health Association, the American Public Health Association, the Consumers Union, and many other organizations in the fields of health, science, and public affairs.

How effective is water fluoridation?

The effectiveness of fluoridation in reducing tooth decay has been extensively documented in scientific literature for more than sixty years. In the years before community water fluoridation, virtually every child grew up with severe and widespread tooth decay. After the introduction of fluoridation in the 1940s, children in communities with optimally fluoridated water had reductions in decay rates of about 60%. By 1987 a survey of North Carolina children showed that over half of all children had no dental decay. This impressive reduction is due in large part to fluoridation. Nowadays, fluoride is also available from other sources including food and beverages prepared with fluoridated water, dental products such as toothpaste, and dietary supplements. As a result, many people who drink water with low amounts of fluoride now also receive some protection against cavities. Even in this era with widespread availability of fluoride from a number of sources, studies prove water fluoridation continues to be effective in reducing dental decay by 20-40%.

What are the costs of fluoridation?

Fluoridation is the most cost-effective method of preventing tooth decay. It is also a very equitable method of disease prevention - all people benefit regardless of their incomes, educational levels, ages, or ability to get dental treatment. The average cost of fluoridation is only about 50 cents per person per year. The cost of a lifetime of fluoridation for one person is less than the cost of one filling. For every dollar spent on community water fluoridation, up to \$42 is saved in treatment costs for tooth decay.

COMPENDIUM

National and International Organizations That Recognize the Public Health Benefits of Community Water Fluoridation for Preventing Dental Decay

Academy of Dentistry International
Academy of General Dentistry
Academy for Sports Dentistry
Alzheimer's Association
America's Health Insurance Plans
American Academy of Family Physicians
American Academy of Nurse Practitioners
American Academy of Oral and Maxillofacial Pathology
American Academy of Orthopaedic Surgeons
American Academy of Pediatrics
American Academy of Pediatric Dentistry
American Academy of Periodontology
American Academy of Physician Assistants
American Association for Community Dental Programs
American Association for Dental Research
American Association for Health Education
American Association for the Advancement of Science
American Association of Endodontists
American Association of Oral and Maxillofacial Surgeons
American Association of Orthodontists
American Association of Public Health Dentistry
American Association of Women Dentists
American Cancer Society
American College of Dentists
American College of Physicians-American Society of Internal Medicine
American College of Preventive Medicine
American College of Prosthodontists
American Council on Science and Health
American Dental Assistants Association
American Dental Association
American Dental Education Association
American Dental Hygienists' Association
American Dietetic Association
American Federation of Labor and Congress of Industrial Organizations
American Hospital Association
American Legislative Exchange Council
American Medical Association
American Nurses Association
American Osteopathic Association
American Pharmacists Association
American Public Health Association
American School Health Association
American Society for Clinical Nutrition
American Society for Nutritional Sciences
American Student Dental Association
American Water Works Association
Association for Academic Health Centers
Association of American Medical Colleges
Association of Clinicians for the Underserved
Association of Maternal and Child Health Programs
Association of State and Territorial Dental Directors
Association of State and Territorial Health Officials

Association of State and Territorial Public Health Nutrition Directors
British Fluoridation Society
Canadian Dental Association
Canadian Dental Hygienists Association
Canadian Medical Association
Canadian Nurses Association
Canadian Paediatric Society
Canadian Public Health Association
Child Welfare League of America
Children's Dental Health Project
Chocolate Manufacturers Association
Consumer Federation of America
Council of State and Territorial Epidemiologists
Delta Dental Plans Association
FDI World Dental Federation
Federation of American Hospitals
Hispanic Dental Association
Indian Dental Association (U.S.A.)
Institute of Medicine
International Association for Dental Research
International Association for Orthodontics
International College of Dentists
March of Dimes Birth Defects Foundation
National Association of Community Health Centers
National Association of County and City Health Officials
National Association of Dental Assistants
National Association of Local Boards of Health
National Association of Social Workers
National Confectioners Association
National Council Against Health Fraud
National Dental Assistants Association
National Dental Association
National Dental Hygienists' Association
National Down Syndrome Congress
National Down Syndrome Society
National Eating Disorders Association
National Foundation of Dentistry for the Handicapped
National Head Start Association
National Health Law Program
National Healthy Mothers, Healthy Babies Coalition
Oral Health America
Robert Wood Johnson Foundation
Society for Public Health Education
Society of American Indian Dentists
Special Care Dentistry
Academy of Dentistry for Persons with Disabilities
American Association of Hospital Dentists
American Society for Geriatric Dentistry
The Children's Health Fund
The Dental Health Foundation (of California)
U.S. Department of Defense
U.S. Department of Veterans Affairs
U.S. Public Health Service
Health Resources and Services Administration (HRSA)
Centers for Disease Control and Prevention (CDC)
National Institute of Dental and Craniofacial Research (NIDCR)
World Federation of Orthodontists
World Health Organization

The above list was updated on December 23, 2008 from <http://www.ada.org/public/topics/fluoride/facts/compendium.asp>. As organizations and entities continue to be added to the Compendium, the most current Compendium can be viewed online at this web site.

From *Fluoridation Facts*, American Dental Association, 2006