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# HEALTH EFFECTS

Fluoride is a highly toxic substance that can cause a range of adverse health effects. Certain members of the public are at particularly high risk of harm.



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## FLUORIDE & HEALTH

### TABLE of CONTENTS

<a href="http://fluoridealert.org/issues/health/arthritis/">Arthritis (http://fluoridealert.org/issues/health/arthritis/)</a>	<a href="http://fluoridealert.org/issues/health/gastrointestinal/">Gastrointestinal Effects (http://fluoridealert.org/issues/health/gastrointestinal/)</a>
<a href="http://fluoridealert.org/issues/health/bone-fracture/">Bone Fracture (http://fluoridealert.org/issues/health/bone-fracture/)</a>	<a href="http://fluoridealert.org/issues/health/hypersensitivity/">Hypersensitivity (http://fluoridealert.org/issues/health/hypersensitivity/)</a>
<a href="http://fluoridealert.org/issues/health/brain/">BRAIN EFFECTS (http://fluoridealert.org/issues/health/brain/)</a> <a href="http://fluoridealert.org/studies/brain01/">IQ Studies (http://fluoridealert.org/studies/brain01/)</a> <a href="http://fluoridealert.org/issues/moms2b/mother-offspring-studies/">Mother-Offspring Studies (http://fluoridealert.org/issues/moms2b/mother-offspring-studies/)</a>	<a href="http://fluoridealert.org/issues/health/kidney/">Kidney Disease (http://fluoridealert.org/issues/health/kidney/)</a>
<a href="http://fluoridealert.org/issues/health/cancer/">Cancer (http://fluoridealert.org/issues/health/cancer/)</a>	<a href="http://fluoridealert.org/issues/health/fertility/">Male Fertility (http://fluoridealert.org/issues/health/fertility/)</a>
<a href="http://fluoridealert.org/issues/health/cardio/">Cardiovascular Disease (http://fluoridealert.org/issues/health/cardio/)</a>	<a href="http://fluoridealert.org/issues/health/pineal-gland/">Pineal Gland (http://fluoridealert.org/issues/health/pineal-gland/)</a>

<https://npo.networkforgood.org/Donate/Donate.aspx?npoSubscriptionId=2553>  
<http://fluoridealert.myshopify.com/>

### FAN NEWSLETTER

Sign up for our free newsletter for updates on the latest fluoride developments.

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<input type="text" value="Email*"/>	<input type="text" value="State/Province"/>
<input type="text" value="Country"/>	<input type="button" value="JOIN"/>

### QUICK FACTS

**97% OF WESTERN EUROPE HAS REJECTED WATER FLUORIDATION (HTTP://WWW.FLUORIDEALERT.ORG/CONTENT/EUROPE-STATEMENTS/)**

**MANY CHILDREN NOW EXCEED RECOMMENDED DAILY FLUORIDE INTAKE FROM TOOTHPASTE ALONE. (HTTP://WWW.FLUORIDEALERT.ORG/ISSUES/SOURCES/F-TOOTHPASTE/)**

**FLUORIDE IS NOT A NUTRIENT (HTTP://WWW.FLUORIDEALERT.ORG/STUDIES/**

**ESSENTIAL-NUTRIENT/).**

**64 STUDIES HAVE LINKED FLUORIDE WITH REDUCED IQ IN CHILDREN (HTTP://WWW.FLUORIDEALERT.ORG/STUDIES/BRAIN01/).**

**Diabetes (<http://fluoridealert.org/issues/health/diabetes/>)**

**Skeletal Fluorosis ([http://fluoridealert.org/issues/health/skeletal\\_fluorosis/](http://fluoridealert.org/issues/health/skeletal_fluorosis/))**

**Endocrine Disruption (<http://fluoridealert.org/issues/health/endocrine/>)**

**Thyroid Disease (<http://fluoridealert.org/issues/health/thyroid/>)**

**Acute Toxicity (<http://fluoridealert.org/issues/health/poisoning/>)**

<https://fluoridealert.org/take-action>

## INTRODUCTORY COMMENTS

Fluoride is a highly toxic substance. Consider, for example, the poison warning that the FDA now requires on all fluoride toothpastes (<http://www.fluoridealert.org/issues/dental-products/toothpastes/>) sold in the U.S. or the tens of millions of people throughout China and India who now suffer serious crippling bone diseases (<http://www.fluoridealert.org/articles/india-fluorosis/>) from drinking water with elevated levels of fluoride.

In terms of acute toxicity (<http://www.fluoridealert.org/studies/acute01/>) (i.e., the dose that can cause immediate toxic consequences), fluoride is more toxic than lead, but slightly less toxic than arsenic. This is why fluoride has long been used in rodenticides and pesticides to kill pests like rats and insects. It is also why accidents involving over-ingestion of fluoridated dental products—including fluoride gels (<http://www.fluoridealert.org/articles/kennerly/>), fluoride supplements (<http://www.fluoridealert.org/studies/acute04/>), and fluoridated water (<http://www.fluoridealert.org/articles/fluoridation-accidents/>)—can cause serious poisoning incidents, including death.

The debate today, however, is not about fluoride's acute toxicity, but its chronic toxicity (i.e., the dose of fluoride that if regularly consumed over an extended period of time can cause adverse effects).

Although fluoride advocates have claimed for years that the safety of fluoride in dentistry is exhaustively documented and “beyond debate,” the Chairman of the National Research Council's (NRC) comprehensive fluoride review, Dr. John Doull, recently stated (<http://www.fluoridealert.org/researchers/nrc/panelists/>) that: “when we looked at the studies that have been done, we found that many of these questions are unsettled and we have much less information than we should, considering how long this [fluoridation] has been going on. I think that's why fluoridation is still being challenged so many years after it began.”

In this section of the website, we provide overviews of the scientific and medical research that implicates fluoride exposure as a cause or contributor to various chronic health ailments. In 2001, the union of scientists (<http://www.fluoridealert.org/articles/epa-union/>) at the Environmental Protection Agency's Headquarters Office in Washington D.C. stated: “we hold that water fluoridation is an **unreasonable risk**.”

The research in this section helps to demonstrate why EPA's union of scientists concluded that fluoridation is an unreasonable risk, and why a growing number of health professionals (<http://www.fluoridealert.org/researchers/professionals-statement/>) do as well.

A discussion about the specific health risks (e.g., risks to the [brain](http://fluoridealert.org/issues/health/brain/)) and [thyroid](http://fluoridealert.org/issues/health/thyroid/)) can be accessed by clicking on the links at the top of this page. The following are reasons why we believe current fluoride policies in the U.S. are unsafe:

**Current safety standards only protect against the most obvious forms of harm:** Current safety standards for fluoride are based on the premise that [severe dental fluorosis](http://www.fluoridealert.org/researchers/epa/timeline/) and [crippling skeletal fluorosis](http://www.fluoridealert.org/studies/skeletal_fluorosis04/) are the first adverse effects that fluoride can have on the body. These effects represent the crudest, most obvious harm caused by fluoride. In the words of American University chemistry professor, Dr. William Hirzy, it would be a “biological miracle” if fluoride did not cause other harm prior to producing these end-stage forms of toxicity. Research already shows, in fact, that fluoride can cause [arthritic symptoms](http://www.fluoridealert.org/studies/skeletal_fluorosis07/) and [bone fracture](http://www.fluoridealert.org/studies/bone07/) well before the onset of crippling fluorosis, and can affect many other tissues besides bone and teeth, including the [brain](http://www.fluoridealert.org/issues/health/brain/) and [thyroid gland](http://www.fluoridealert.org/issues/health/thyroid/).

**The current “safe” daily dose for fluoride fails to withstand scrutiny:** The Institute of Medicine (IOM) states that anyone over 8 years of age — irrespective of their [health condition](http://www.fluoridealert.org/studies/vulnerable-populations/) — can safely ingest 10 milligrams of fluoride each day for their entire life without developing symptomatic bone damage. Ten milligrams, however, is the same dose that the IOM [concedes](http://www.fluoridealert.org/studies/skeletal_fluorosis04/) can cause clinical signs of skeletal fluorosis within just 10 to 20 years of exposure. People with clinical signs of fluorosis can suffer significant symptoms, including chronic [joint pain](http://www.fluoridealert.org/issues/health/arthritis/) and overt [osteoarthritis](http://www.fluoridealert.org/studies/arthritis02/). The IOM’s safety standard instills little confidence in the medical understanding that currently underlies fluoride policies in the U.S.

**Some people are particularly susceptible to fluoride toxicity:** It is well known that individual susceptibility to fluoride varies greatly across the population, and yet, the [National Research Council](http://www.fluoridealert.org/researchers/nrc/) has recently found that breathtakingly large gaps still exist in the safety literature on the effects these populations may be experiencing as a result of current fluoride exposures. The [bewildering degree of uncertainties](http://www.fluoridealert.org/researchers/nrc/recommendations/) identified by the NRC stands in stark contrast to the IOM’s conclusion that 10 mg/day is so definitively safe that no “uncertainty factor” needs to be applied to protect vulnerable members of the population.

**The margin between the toxic and therapeutic dose is very narrow:** The NRC concluded that the allegedly [“safe”](http://www.fluoridealert.org/researchers/epa/) upper limit of fluoride in water (4 mg/l) is [toxic](http://www.fluoridealert.org/researchers/nrc/) to human health. While the NRC did not determine the safe level, their conclusion means that the safe level is less than 4 times the level added to water (0.7-1.2 mg/l) in community fluoridation programs. This is far too slim a margin to protect vulnerable members of the population, including those who consume high amounts of water.

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## SEE ALSO:

[FAN’s Health Database](http://www.fluoridealert.org/researchers/health_database/)  
[Fluoride & Dental Fluorosis](http://www.fluoridealert.org/issues/fluorosis/)  
[Fluoride & Tooth Decay](http://www.fluoridealert.org/issues/caries/)  
[Fluoride & Environmental Justice](http://www.fluoridealert.org/issues/ej/)

[Sources of Fluoride Exposure \(http://www.fluoridealert.org/issues/sources/\)](http://www.fluoridealert.org/issues/sources/)

[↑ \(#main\)](#)

#### RELATED VIDEOS:



[Crippling Waters](#)

(<https://fluoridealert.org/fan-tv/crippling-waters/>)



[Professional Perspectives on Water Fluoridation](#)

(<https://fluoridealert.org/fan-tv/prof-perspectives/>)



[Don't Swallow Your Toothpaste](#)

(<https://fluoridealert.org/fan-tv/dont-swallow-your-toothpaste/>)

#### RELATED ARTICLES:

##### **The Absurdities of Water Fluoridation**

[caption id="attachment\_10205" align="alignleft" width="190"] Paul Connett, PhD/[caption] Water fluoridation is a peculiarly American phenomenon. It started at a time when Asbestos lined our pipes, lead was added to gasoline, PCBs filled our transformers and DDT was deemed so "safe and effective" that officials felt no qualms spraying kids in school classrooms

(<https://fluoridealert.org/articles/absurdity/>)

##### **Why I am now officially opposed to adding fluoride to drinking water**

<https://www.youtube.com/watch?v=iF-hKllgCuM> April, 2000 To whom it may concern: Since April of 1999, I have publicly decried the addition of fluoride, especially hydrofluosilicic acid, to drinking water for the purpose of preventing tooth decay. The following summarize my reasons. New evidence for lack of effectiveness of fluoridation in modern times. [caption id="attachment\_10211" align="alignleft" width="150"] Dr. Hardy

(<https://fluoridealert.org/articles/limeback/>)

##### **50 Reasons to Oppose Fluoridation**

Introduction [caption id="attachment\_11821" align="alignleft" width="200"] Dr. Paul Connett/[caption] In Europe, only Ireland (73%), Poland (1%), Serbia (3%), Spain (11%), and the U.K. (11%) fluoridate any of their water. Most developed countries, including Japan and 97% of the western European population, do not consume fluoridated water. In the U.S., about 70% of public water supplies are

(<https://fluoridealert.org/articles/50-reasons/>)

#### RELATED STUDIES:

### **Fluoride & IQ: 76 Studies**

Note: See the Updated list of fluoride IQ studies at <https://fluoridealert.org/researchers/fluoride-iq-studies/the-fluoride-iq-studies/> • As of July 18, 2022, a total of 85 human studies have investigated the relationship between fluoride and human intelligence. • Of these investigations, 76 studies have reported that elevated fluoride exposure is associated with reduced IQ in humans. • The studies

(<https://fluoridealert.org/studies/brain01/>)

### **Fluoride's Effect on Fetal Brain**

The human placenta does not prevent the passage of fluoride from a pregnant mother's bloodstream to the fetus. As a result, a fetus can be harmed by fluoride ingested pregnancy. Based on research from China, the fetal brain is one of the organs susceptible to fluoride poisoning. As highlighted by the excerpts

([https://fluoridealert.org/studies/brain05\\_/](https://fluoridealert.org/studies/brain05_/))

### **Fluoride: Developmental Neurotoxicity.**

Developmental Neurotoxicity There has been a tremendous amount of research done on the association of exposure to fluoride with developmental neurotoxicity. There are over 60 studies reporting reduced IQ in children and several on the impaired learning/memory in animals. And there are studies which link fluoride to Attention Deficit Hyperactivity Disorder. Teaching

([https://fluoridealert.org/studies/brain03\\_/](https://fluoridealert.org/studies/brain03_/))

## **RELATED MISCELLANEOUS CONTENT:**

### **Email Exchange with FDA re: Fluoride Supplements**

Email exchange regarding FDA's reasons for not approving fluoride supplements.

(<https://fluoridealert.org/content/fda-emails/>)

### **Harvard's Statement on Chester Douglass/Scientific Misconduct**

Statement Concerning the Outcome of the Review into Allegations of Research Misconduct Involving Fluoride Research BOSTON-August 15, 2006-The Harvard Medical School and School of Dental Medicine (HSDM) review of Chester Douglass, DMD, PhD, professor of oral health policy and epidemiology at HSDM, has concluded that Douglass did not intentionally omit, misrepresent,

(<https://fluoridealert.org/content/harvard-statement/>)

### **The 'Altered Recommendations' of the 1983 Surgeon General's Panel**

"We believe that EPA staff and managers should be called to testify, along with members of the 1983 Surgeon Generals panel and officials of the Department of Human Services, to explain how the original recommendations of the Surgeon Generals panel were altered to allow EPA to set otherwise unjustifiable drinking water standards for fluoride."

(<https://fluoridealert.org/content/surgeon-general/>)

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