



FLUORIDE
ACTION
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Dental Fluorosis

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Pictures of Dental Fluorosis



Mild Fluorosis

Photo by Hardy Limeback, DDS



Mild Fluorosis

Photo by Elke Babiuk



Mild Fluorosis

Photo by Hardy Limeback, DDS



Mild Fluorosis

Photo by David Kennedy, DDS



Mild Fluorosis

Photo by Jeffrey Hamilton, DDS



Mild/Moderate Fluorosis

Photo by Elke Babiuk



Moderate/Severe Fluorosis

Photo by David Kennedy, DDS



Moderate/Severe Fluorosis

Photo by David Kennedy, DDS



Severe Fluorosis
Photo by Hardy Limeback, DDS



Severe Fluorosis
Photo by Hardy Limeback, DDS



Severe Fluorosis
Photo by John Colquhoun, DDS



Severe Fluorosis
Source of photo unknown

For information on the [classification criteria](#) used for dental fluorosis, [click here](#)

NEW: [Dental fluorosis on the rise according to new US survey](#) - FAN Science Watch, August 25, 2005

Dental Fluorosis: A Cosmetic Effect? [\(Back to top\)](#)

"It is a toxic effect and a cosmetic effect. These are not mutually exclusive. It's toxic and it's cosmetic."

- Dr. Arvid Carlsson, Nobel Prize Laureate in Medicine/Physiology (2000).

"It is illogical to assume that tooth enamel is the only tissue affected by low daily doses of fluoride ingestion."

- Dr. Hardy Limeback, Head of Preventive Dentistry, University of Toronto. (2000). *Why I am now Officially Opposed to Adding Fluoride to Drinking Water*.

"Common sense should tell us that if a poison circulating in a child's body can damage the tooth forming cells, then other harm also is likely."

- Colquhoun J. (1997). Why I changed my mind about Fluoridation. *Perspectives in Biology and Medicine* 41:29-44.

"Like bones, a child's teeth are alive and growing. Fluorosis is the result of fluoride rearranging crystalline structure of a tooth's enamel as it is still growing. It is evidence of fluoride's potency ability to cause physiologic changes within the body, and raises concerns about similar damage may be occurring in the bones."

- Environmental Working Group, "National Academy Calls for Lowering Fluoride Limits in Tap Water", N 22, 2006.

"It seems prudent at present to assume that the ameloblasts are not the only cells in the body w function may be disturbed by the physiological concentrations of fluoride which result from drir water containing 1 ppm"

- Groth, E. (1973), *Two Issues of Science and Public Policy: Air Pollution Control in the San Francisco Area, and Fluoridation of Community Water Supplies*. Ph.D. Dissertation, Department of Biological Sciences, Stanford University, May 1973.

"The safety of the use of fluorides ultimately rests on the assumption that the developing enamel organ is most sensitive to the toxic effects of fluoride. The results from this study suggest that t pinealocytes may be as susceptible to fluoride as the developing enamel organ."

- Luke J. (1997). *The Effect of Fluoride on the Physiology of the Pineal Gland*. Ph.D. Thesis. University Surrey, Guildford. p. 176.

"A linear correlation between the Dean index of dental fluorosis and the frequency of bone fracture was observed among both children and adults."

- Alarcon-Herrera MT, et al. (2001). Well Water Fluoride, Dental fluorosis, Bone Fractures in the Guadalupe Valley of Mexico. *Fluoride* 34(2): 139-149.

Dental Fluorosis: What is it? ([Back to top](#))

Dental fluorosis is an irreversible condition caused by excessive ingestion of fluoride during the tooth forming years. It is the first *visible* sign that a child has been [overexposed](#) to fluoride.

Fluoride causes dental fluorosis by damaging the enamel-forming cells, called ameloblasts. The damage to these cells results in a [mineralization disorder of the teeth](#), whereby the porosity of the sub-surface enamel is increased.

While the dental profession claims that dental fluorosis is solely a 'cosmetic' effect, and not a *health* effect, this statement is an assumption and not a fact. Certainly, dental fluorosis represents a [toxic effect on tooth cells](#). The question is whether tooth cells are the [only cells](#) in the body that are impacted.

As noted by former proponent of fluoridation, [Dr. John Colquhoun](#), "Common sense should tell us that if a poison circulating in a child's body can damage the tooth-forming cells, then other [harm](#) also is likely."

As noted by [Dr. Hardy Limeback](#), former President of the Canadian Association of Dental Research, "it is illogical to assume that tooth enamel is the only tissue affected by low daily doses of fluoride ingestion."

Over the past 50 years, the [prevalence of dental fluorosis has increased](#) quite dramatically in the United States and other fluoridated countries.

According to the [Centers for Disease Control](#), dental fluorosis now impacts 32% of American children. (In the 1940s, dental fluorosis rates in [fluoridated](#) areas averaged 10%.)

Not only is the prevalence of fluorosis increasing, but so is its [severity](#). As noted by Dr. Gary Whitford:

"There is a growing body of evidence which indicates that the prevalence and, in some cases, the severity of dental fluorosis is increasing in both fluoridated and non-fluoridated regions in the U.S... This trend is undesirable for several reasons: (1) It increases the risk of [esthetically objectionable](#) enamel defects; (2) in more severe cases, it increases the risk of [harmful effects to dental function](#); (3) it places dental professionals at an increased risk of [litigation](#); and (4) it jeopardizes the perception of the safety and, therefore, the public acceptance of the use of fluorides."

According to recent estimates from the U.S. and British Governments, 2 to 12% of children living in fluoridated communities have dental fluorosis of "esthetic concern" (Griffin 2002; York Review 2000).

Dental fluorosis, of esthetic concern, is an expensive condition to treat. If left untreated, it can cause [embarrassment](#) for school-aged children, resulting in [psychological stress](#) and damaged self-esteem.

There is also mounting evidence that dental fluorosis in its more advanced stages can leave teeth more susceptible to [cavities](#). As noted by pro-fluoridation dental researcher, Dr. Steven Levy, "With more severe forms of fluorosis, caries risk increases because of pitting and loss of the outer enamel" (Levy 2003).

Q & A on Dental Fluorosis:

"My child has dental fluorosis. What can we do to fix it?"

The damage that dental fluorosis causes to the internal matrix of the teeth is permanent. There is no way to reverse the damage.

However, there are ways to 'hide the damage' -- to treat the surface of the teeth so as to hide the discoloration.

Treatment options for fluorosis vary and will depend in part on the severity of the fluorosis and what you can afford (the treatments are very expensive). Some of the more common treatments include:

- **Abrasion:** Abrasion involves finely sanding off the outer layer of the enamel. It is a common approach when the fluorosis is mild. However, if the fluorosis is of a more advanced severity, abrasion is probably a good idea as it can bring to the surface of the teeth a highly-porous enamel that will be prone to attrition.

- **Composite bonding:** Composite bonding first involves lightly roughening the area of the damaged enamel. After etching the enamel, a composite resin (with a color matching your teeth) is "glued" on to the exterior of the tooth.

- **Porcelain veneers/laminates:** Made out of porcelain, veneers form a ceramic shell over the surface of the tooth. Veneers may need to be replaced after several years, however, which can become quite expensive.

To determine which method of treating fluorosis will be best for you, contact your local dentist. If your dentist does not do cosmetic dentistry, he/she should be able to refer you to a nearby dentist who does.

News Articles on Dental Fluorosis:

- [Fluorosis: Too much of a good thing](#) - *Times Herald-Record*; December 28, 2005
- [Health Tip: Too Much Fluoride Can Harm Young Children](#) - *US Department of Health and Human Services*; 14, 2005
- [Look what fluoride did to my girl's teeth](#) - *Evening Times*; August 19, 2004
- [Dental Makeover](#) - *Detroit Now*; August 4, 2003
- [Fluoride Harmed Our Son](#) - *Derby Evening Telegraph*; July 25, 2003
- [The Toxic Toothpaste](#) - *The Times of London*; May 15, 2001
- [Don't Swallow Your Toothpaste](#) - *UK Channel 4*; June 19, 1997
- [Colgate pay-out stirs up fluoride row](#) - *The Telegraph*; November 25, 1996
- [Fluoride's Revenge](#) - *The Progressive*; December 1990

Further Information on Dental Fluorosis:

- [Dental Fluorosis Classification Criteria](#)
- [Mild Forms of Dental Fluorosis](#)
- [Moderate to Severe Dental Fluorosis](#)
- [Perception and Psychological Impact of Dental Fluorosis](#)
- [Dental Fluorosis & Elevated Fluoride Exposure as a Cause of Tooth Decay](#)
- [Biology of Dental Fluorosis](#)



Letters from People Impacted by Dental Fluorosis

The following is a sampling of emails sent to the [Fluoride Action Network](#) from people impacted by dental fluorosis.

----- Forwarded Message
 From: [...]
 Date: Tue, 19 Apr 2005 21:34:12 EDT
 To: personal@fluoridealert.org
 Subject: depressing fluorosis

My name is Jennifer and I have severe dental fluorosis. I am now 16 years old and I have had this since I was very young. This has really affected my life to a great extent. In elementary, middle, and high school, I was teased really bad by other kids. People did not understand what I was talking about when I tried to explain, they thought I just did not brush my teeth. I can't smile or people in the eye when I talk to them. It is completely devastating and I am finally getting it fixed. I am going in one month for a Composite Veneer. I wish more people knew how exactly this affects children. Especially when you grow older, everyone would like a nice smile, but this makes it so difficult since it is permanent. To everyone else that has it, remember you are not the only ones!!

----- Forwarded Message

From: [...]
Date: Thu, 14 Apr 2005 10:39:16 +0100
Subject: Victim of Fluoride Tablets

Sir/ Madam

I have just come across your website and wondered whether you would be able to assist me.

When my older sister was born NHS staff advised my Mum to give her fluoride tablets to help make her teeth strong. I followed the advice and when I was born I was given the same tablet, until my older sister's second teeth started to show. My mum realized that instead of making our teeth better these tablets had permanently mottled our teeth, mine more so than my sisters.

I have researched into bleaching and other cosmetic procedures to rectify this problem which has had an effect on my confidence and self-esteem, but because of the complex nature of the problem the only solution I can find would be porcelain veneers which cost a fortune.

Could you tell me if the NHS or any other responsible body was offering compensation for the ill advice they gave my mother in the early eighties?

----- Forwarded Message

From: [...]
Date: Wed, 23 Feb 2005 19:10:10 EST
Subject: Fluoridosis

My son has been diagnosed with fluoridosis. I had followed the advice of his pediatrician and given him the fluoride tablets. Now we're stuck with the problem. I realize there is nothing I can do about his teeth. Is there simply nothing that can be done all through nutrition?

----- Forwarded Message

From: [...]
Date: Sat, 5 Feb 2005 08:37:18 -0800 (PST)
Subject: my child has FLUOROSIS

Dear Fluoride Action Network,

My adopted daughter has Fluorosis. Even the dentist didn't know why her teeth were mottled, but when I saw you I recognized it instantly. My daughter has big teeth, and unfortunately her teeth detract from her beautiful face. She's right now. My question is, what can I DO for her cosmetically? Her teeth look dirty, even when they are not, and she's getting teased at school. Thanks So Much,

----- Forwarded Message

From: [...]
Date: Mon, 17 Jan 2005 23:49:51 +0000
Subject: Thanks

I am so happy to view a website warning people about the dangers of too much fluoride. I am one of the unlucky ones who has moderate to severe fluorosis - many of my teeth are pitted and discolored. I am writing this email to thank you for the knowledge provided here that has taught me what is safe and not safe for the children that I hope to have some day. I don't want them to go through the embarrassment and humiliation that I have experienced. Also, I was wondering if you had any options that I have as far as getting my teeth fixed. I know that cosmetic dentistry is expensive, so I am looking for a more affordable, if there is such a thing. Thanks.

----- Forwarded Message

From: [...]
Date: Sat, 15 Jan 2005 17:49:28 -0500
Subject: Fluorosis

Hello. I have a mild case of fluorosis and I hate the way my teeth look. It bothers me a lot, I avoid smiling as a result because there's no way to reverse this... but I want to fix my teeth so that I don't see any more white spots. I particularly with my two front teeth, what cosmetic procedure would you suggest I get?

----- Forwarded Message

From: [...]
Date: Wed, 12 Jan 2005 14:16:05 -0600
Subject: Question

Hello. I stumbled upon the National Treasury Employees Union report written by Dr. J. William Hirzy dated 05-01 months ago, through the Feingold Association's website, and figured out immediately that THIS is what's wrong with teeth. My problem, now, however is that I can't seem to find any information on what to do about it. Can/should I for fluoride levels in his body? Do I have any recourse against the dentists who've prescribed the fluoride pills for have well water? And, is there anything I can do to make his "funky teeth" normal again? Can you give me some

----- Forwarded Message

From: [...]
Date: Tue, 14 Dec 2004 18:44:57 -0800 (PST)
Subject: Re: fluoride

Thanks for the reply. I VERY MUCH appreciate it. Do you think it is possible to reverse some of the damage I have already done? I read the worst time to overdose on fluoride is 21-30 months for females (this is when the enamel on those top incisors are forming) and this is the EXACT time we overdosed her! I know you said it's not too late, but can I reverse what I have done so that her fluorosis won't be moderate or severe? What if I give her extra calcium? Do you know? (Can you tell I am very upset about this? ha ha)

----- Forwarded Message

From: [...]
Date: Thu, 2 Dec 2004 05:03:40 -0800 (PST)
Subject: dental fluorosis

Hello,

I'm 27 years old, and I noticed recently that I have some white spots on my front teeth. I was surprised because I dentist 2 months ago, and he said that my teeth were fine and he didn't mention a thing about the white spots. I wonder whether that was because he didn't see them as cause for concern, or because they only recently appeared.

In any case, I've been reading about Dental Fluorosis on your site, and the pictures labeled "Mild fluorosis" seem close to what my teeth look like.

Since this seems to be an irreversible process, is there anything at all that I can do prevent it from getting worse? and will my teeth eventually develop severe fluorosis?

I've started taking calcium supplements and limiting the foods that are high in fluoride (i.e. tea and fluoridated toothpaste). Is there anything else I can do?

thanks,

----- Forwarded Message

From: [...]
Date: Mon, 22 Nov 2004 23:52:10 -0500
Subject: Good news/bad news

I am not dealing with this whole fluoride thing well at all. Every time I look at J...'s teeth I have to hold back my tears. A baby and toddler I saw at Disney reminded me that at that age I was giving her poison. Every time I look at her I wonder what other damage this poison may have done inside of her.

I know that dealing with distraught moms is probably outside your area of expertise and I appreciate your patient link to the people and information I need to help my daughter...

----- Forwarded Message

From: [...]

Date: Wed, 26 May 2004 21:59:43 +1000 (EST)
Subject: i need a cure

Hi, i have flurosis and i need to get it cured! I need help. I went to my local dentist and he had never seen or hear flurosis. I was born and raised in Australia, not India were the drinking water contained chemicals. All i am asking have enough info about the preventative measures and causes, but its too late, i've had it on my teeth for as long as i can remember. I am 18 and its my first yr at university, it is really embarrassing talking to people up close. Is there so can help me in finding a cost efficient permanent cure?

----- Forwarded Message
From: [...]
Date: Tue, 17 Feb 2004 14:20:06 -0800
Subject: help with fluorosis

What do you do about fixing this discoloration. The dentists say bleaching won't work and they recommend vene

Tens of thousands of dollars for grinding down great shaped teeth that are just discolored? Won't anything else v

----- Forwarded Message
From: [...]
Date: Sat, 10 Jan 2004 02:14:30 EST
Subject: question

I think my 8 yr old son has fluorosis, so what do I do now? He has been using flouride toothpaste for years and a supplement his dentist prescribed AND rinses with ACT on occasion which has fluoride in it. He has some white spots on two top front teeth which are still growing in and are his permanent teeth. He also has developemental delays, wonder. At this point, will this go away and should I stop using fluoride now to help it or is the harm already done white spots already? thanks for info

----- Forwarded Message
From: [...]
Date: Sun, 28 Dec 2003 00:47:59 -0500
Subject: No subject

Hi,

I can't seem to find any information on how to correct dental fluorosis. I am a 25 yr old aspiring t.v. reporter who j small white spot on my front tooth and I want to correct it. My career is partly based on my looks, so I'm a little pa the spot. PLEASE let me know if there's any way to fix this!! THANK YOU!!

----- Forwarded Message
From: [...]
Date: Sat, 6 Dec 2003 19:25:03 -0800 (PST)
Subject: New to the fluoride issues

Hello,

I recently became aware of the dangers of fluoridated water after the movie "Dr. Strangelove" prompted me to look up information on fluoridation, which at first, I thought was a big joke.

After reading the material on your and others sites, I have taken some "first level" actions to find out more about this situation.

I have contacted the ADA, the city health office of Norfolk, VA as well as other government and civilian agencies. I even wrote to the Brita water filtration company asking why their filters are not advertised as removing fluoride.

After studying the nature and physical symptoms of Dental Fluorosis and am now dismayed to finally learn that the white spots on my teeth are not degraded tooth enamel, but mild DF. Can you recommend a good non-fluoride toothpaste?

If you have a mailing list, please include me and I hope to be in touch with you in the future.

Thank you,

----- Forwarded Message

From: [...]
Date: Sun, 21 Sep 2003 12:06:46 EDT
Subject: Daughter's recent diagnosis of fluorosis

My daughter recently went to a new dentist, who diagnosed fluorosis. We have changed toothpaste to an organic added fluoride, but I am concerned about the bottled water she consumes (a lot). How do I find a brand that does fluoride to purify? Is there a list online?
Thank you for your help!

----- Forwarded Message

From: [...]
Date: Wed, 10 Sep 2003 10:21:28 -0700 (PDT)
Subject: Dental Fluorosis

Hello. I have a question about Dental Fluorosis. I think I might have it. I have had white marks on my 2 front teeth can remember. I never knew what caused it. I had no idea it might be dental fluorosis. Is there any way to tell for you ever heard of someone suing their municipality for causing dental fluorosis?

Thanks

----- Forwarded Message

From: [...]
Date: Tue, 29 Jul 2003 20:26:58 -0400
Subject: Question

I have a special needs child that does not know how to spit the toothpaste out. He is a toddler. His dr. said to use toothpaste with fluoride in it so I have been using kids sparkle fun flavor.

My concern is that his teeth are yellow and at the tips they are a grayish color. Even though I brush them 2x a da that color not too long after brushing. He also takes nebulizer treatments for his breathing. I had read that they m cause it. But his dr. said that he doesn't think that it would be causing it. He has been on it for months for the disc now. He thought it might be the well water but my son doesn't eat any foods that we cook and our area has high but that would not be it either.

I wanted to see if anyone reading this email might have some insight on what I could try. Maybe I need to change toothpaste or something like that. If you would email me back please.

Thanks
Concerned mom

----- Forwarded Message

From: [...]
Date: Tue, 29 Jul 2003 20:08:31 -0300
Subject: Fluorspar

To whom it may concern,

I am 39 years old and was exposed to Fluorspar in our drinking water when I was growing up. My upper teeth ha removed by the age of 14 due to deterioration. My back lower teeth never came out, are still dormant according t had to have a partial put in.

My question: "Is it safe for me to have a child. Do I have a greater chance of having a Down Syndrome baby? or deformities?" Can this be a hidden cause for my asthma and other aches and pains. If yes, what can I do... My cl

ticking...I'm finally with a loving man for a long time. If at all possible I would like to have a child.

Thanking you in advance for your time.

----- Forwarded Message

From: [...]

Date: Wed, 9 Jul 2003 12:55:13 +0100

Subject: dental fluorosis

my son has what looks like to me severe dental fluorosis, although our dentist has transferred us to see a dental s
one wants to say what is actually wrong with his teeth, how can we find out more.

----- Forwarded Message

From: [...]

Date: Wed, 19 Feb 2003 00:35:55 -0800

Subject: my daughter

My daughter is almost 6 yrs.old. She was born in Phoenix where we lived until she was 1. We now live in southe
she was born I was very unsure about the care of children. I got some notion that my daughter needed additional f
doctor perscribed fluoride drops. I have no written record of the prescription or remember how long I gave it to he
adult teeth are comming in and they are not as white as her baby teeth and one has a white spot on it. her dentis
me they are fine but I think maybe he has just never seen damage due to fluoride. I am also having a hard time a
did this very large and important mistake to my child. What should I do? I am sure this is the problem, but I do we
comformation and I am worried about her health, bones etc. I gave her the fluoride sometime before she was 1.

Very stressed mother

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