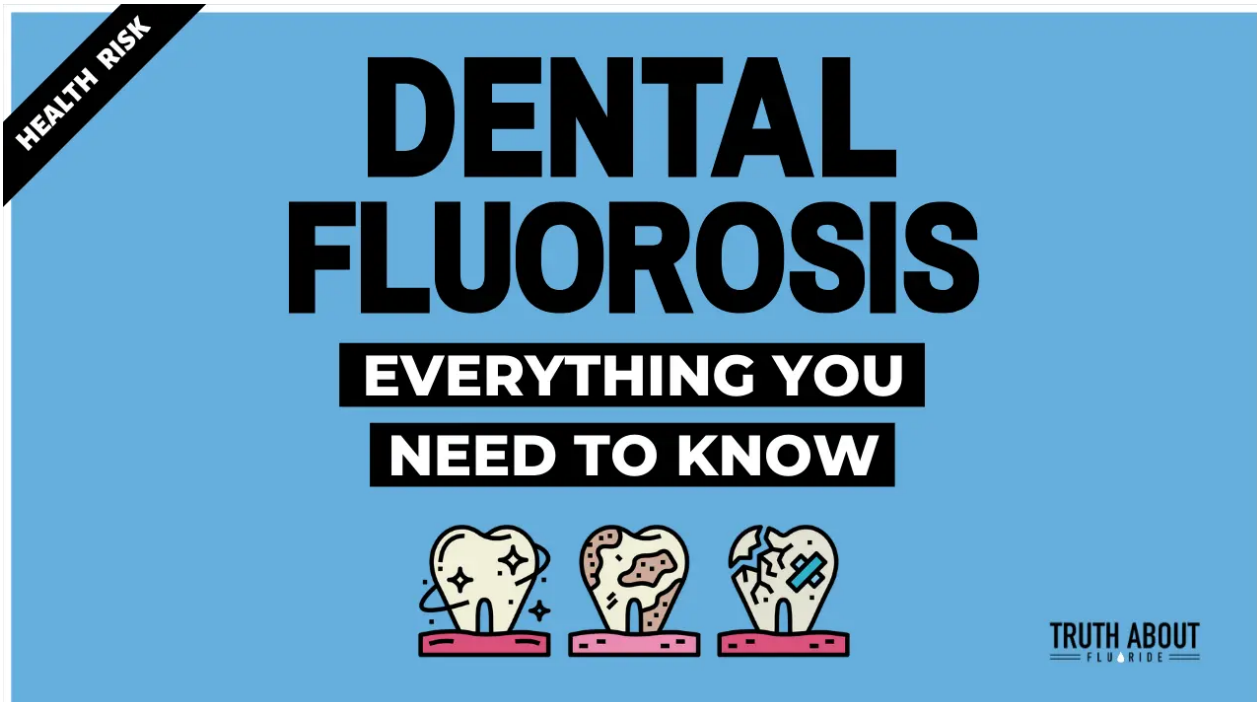


✔ Evidence Based



Dental Fluorosis: Signs, Causes & Treatment

by Casey J Krol

Take a moment to do the following... do your teeth, or your child's teeth, have white streaks? brown spots? pitting? If you answered "yes", you or your child may have a condition called dental fluorosis.

The first sign of fluoride toxicity.

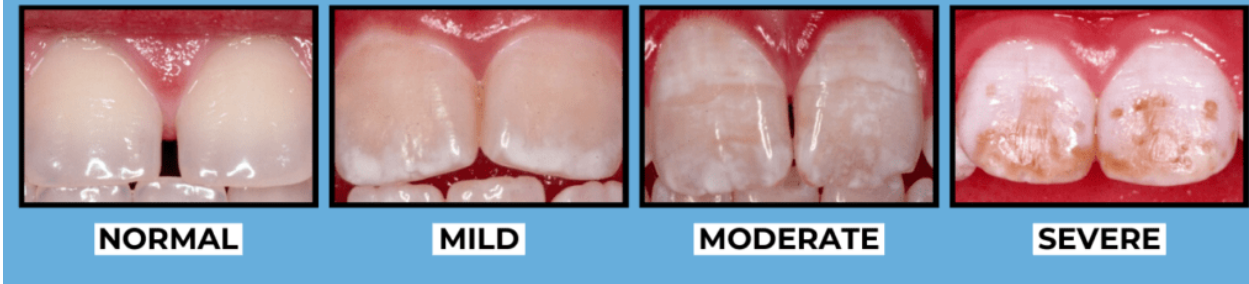
What is Dental Fluorosis?

Dental fluorosis is a common defect of tooth enamel caused by ingestion of too much fluoride during the first 8 years of life when enamel is formed.¹

Characterized by hypomineralization, the lack of calcium in teeth leads to visual changes in enamel, causing varying levels of discoloration and in some cases, damage to teeth.

Even though dental fluorosis can be cosmetically treated, enamel damage is **permanent**.²

HOW DOES DENTAL FLUOROSIS LOOK LIKE?



Additionally, the extent to which dental fluorosis develops depends on the amount and duration of fluoride exposure while teeth are forming.¹

What Causes Dental Fluorosis?



Dental fluorosis is a non-hereditary disorder that is solely caused by the ingestion of fluoride while teeth are developing. It's through fluorides direct effects on ameloblasts, the developing matrix and processing of the matrix that disrupts normal development.³

This disruption can happen when permanent teeth come in (at the age of 8) or when baby teeth come in (around the ages of 1-2).⁴

The seriousness of fluoride toxicity depends on the amount of fluoride, age, individual response, weight, degree of physical activity, nutrition, and bone growth.⁵

With those factors in mind, it's clear that low levels of fluoride can be detrimental to children as they are less developed.

Thus, the visual signs on teeth.

Making it important for parents and care-givers to be aware of the different sources of fluoride their child may be exposed to.

Sources Of Fluoride?

One fluoride source or a combination of, can cause dental fluorosis.

Whether natural or artificial, multiple sources of fluoride have the potential to cause dental fluorosis. However, the development typically occurs due to the following scenarios:

- Fluoridated drinking water (especially during infancy)
- Ingestion of fluoride toothpaste
- Use of fluoride tablets
- Consumption of food made with fluoridated water

Even something that seems so harmless like tea, can single handedly cause dental fluorosis in a child. As [fluoride in tea](#) can reach up to six times the amount of fluoride than tap water.

In addition, most dental products for children are now flavored, and the likelihood of younger children swallowing toothpaste is extremely likely.

As a result, this makes out for a troubling scenario...

The image shows a comparison between two toothpaste labels. The left label is for a fluoride toothpaste, and the right label is for a fluoride-free toothpaste. The fluoride label includes a warning about accidental swallowing and the need to contact Poison Control. The fluoride-free label includes directions for use in both English and French.

FLUORIDE-FREE VS. FLUORIDE TOOTHPASTE

FLUORIDE

Medicinal Ingredient: Sodium Fluoride 0.243% w/w
Brush teeth thoroughly (for at least 1 minute), preferably after each meal, or as directed by a health care practitioner. Do not swallow. Children under 6 years of age should use only a pea-sized amount & be supervised to brush properly & to not swallow. Keep out of reach of children under 6 years of age. If a quantity greater than the dose used for brushing is accidentally swallowed, get medical help or contact a Poison Control Centre right away. Do not use if glued carton end flaps are broken.

FLUORIDE-FREE

Directions for use: Adults and children 2 yrs. & older: brush teeth thoroughly after meals or at least twice a day or use as directed by a dentist. Do not swallow.
Mode d'emploi : Adultes et enfants à partir de 2 ans : se brosser les dents soigneusement après les repas ou au moins deux fois par jour, selon les recommandations d'un dentiste. Ne pas avaler.
Fluoride Free Sans fluorure,
Free to Choose Libre de choisir

Individuals should also keep in mind toothpastes are extremely potent in fluoride(1000 to 1500 ppm) and what seems like a small amount of toothpaste is in reality, a lot of fluoride.

A substance that if swallowed, requires you to seek medical help or contact the **Poison Control Center** right away.

Dental Fluorosis Symptoms and Effects?



Oddly enough, fluoride is supposed to “protect” you from tooth decay.

Yet somehow it causes it.

Typically, most cases of dental fluorosis are mild and do not affect tooth function or cause pain. It's in the later stages where enamel is significantly damaged, visible by pitting and brown spots.

Besides obvious visual signs, a child or adult can suffer significant embarrassment and anxiety over the appearance of their teeth. With the more severe cases of dental fluorosis, a child's teeth may be viewed as “dirty” or “rotten”.⁶

Even with it's milder forms, surveys and common sense have consistently found public perception of such teeth are less pleasing, less attractive and more likely to affect the well-being of children than non-effected teeth.⁷

However, it gets much worse...

Visible Sign Of Toxicity



If you observe that your child's teeth have white streaks, spots, or discoloration- immediately eliminate fluoride exposure.

Dental fluorosis typically signals the first sign of **fluoride toxicity** and the development of more severe health effects caused by fluoride.³

As the effects of fluoride do not start and stop at the teeth.

Matter of fact, as fluoride circulates the body it affects several different parts, causing much greater damage than what's observed in dental fluorosis.

In essence, dental fluorosis acts as a red flag to the development of fluoride induced health effects that are not as easily seen with the naked eye:

- **Skeletal Fluorosis:** broken bones, arthritis, reduced mobility.
- **Pineal Gland Calcification:** poor sleep, lower melatonin.
- **Fluoride's Brain Effects:** lowered IQ, autism, ADHD.

What Does Dental Fluorosis Look Like?

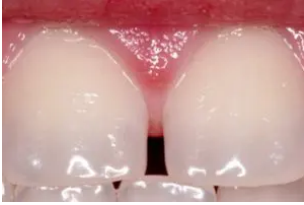




Dental fluorosis comes in various stages.


With the stage of dental fluorosis increasing with the child's dose and duration of fluoride exposure, with worsening effects through nutritional deficiencies and kidney impairments.⁸

The chart below outlines the different stages of dental fluorosis.

Stages Of Dental Fluorosis

Stage	Criteria – description of enamel
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Stage	Criteria – description of enamel
<p>Normal</p> 	<p>The surface is smooth, glossy and usually of pale creamy white color giving off a glass-like appearance.</p>
<p>Stage 1 "Questionable"</p> 	<p>Appearance ranges from a few white flecks to occasional white spots, however from a visual could not be considered "normal".</p>
<p>Stage 2 "Very Mild"</p> 	<p>Small opaque paper-white areas are scattered over less than 25% of the tooth surface</p>
<p>Stage 3 "Mild"</p> 	<p>Traditionally considered "mild" however mild is inappropriate when considering up to 50% of the tooth can have white opaque areas in the enamel of the teeth of this stage.</p>
<p>Stage 4 "Moderate"</p> 	<p>White opaque areas affect more than 50% of the enamel surface. Brown stains start to emerge.</p>
<p>Stage 5 "Severe"</p>	<p>All enamel surfaces are affected. The main diagnostic sign of the stage is discrete or confluent pitting, with widespread brown-like stains.</p>

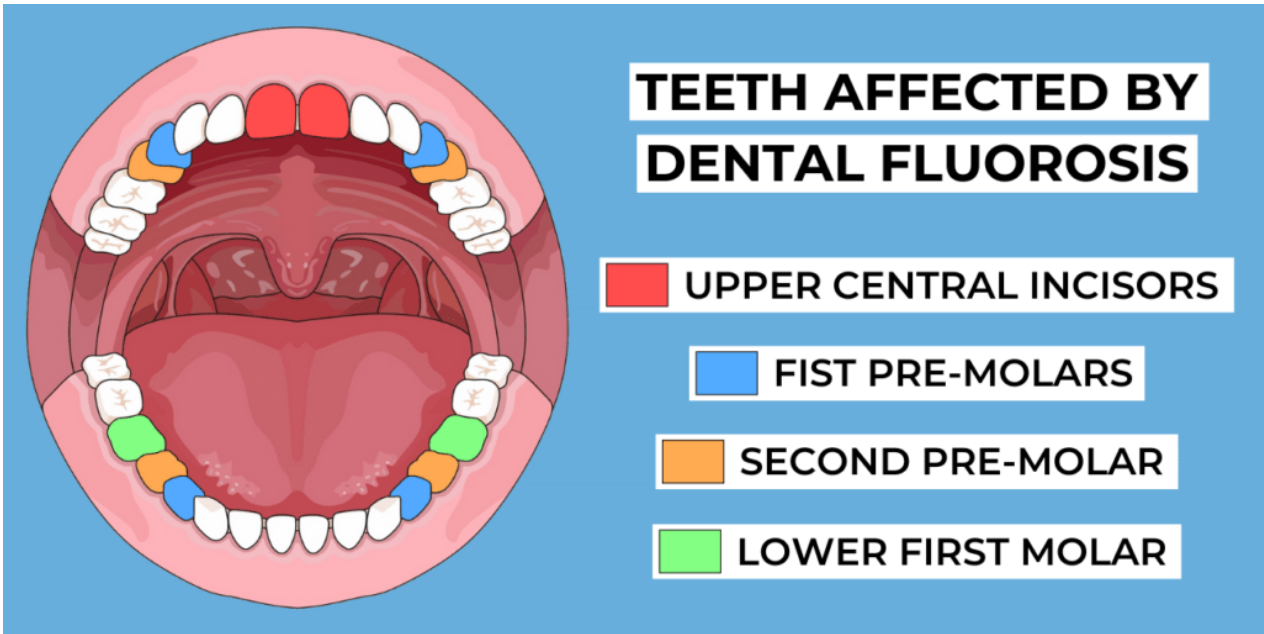
Stage	Criteria – description of enamel
	

Which Teeth Are Affected?

Dental fluorosis tends to affect certain teeth more than others.

For example, adult teeth are affected more commonly than baby teeth, while upper teeth are more affected than lower teeth.⁹

When it comes to specific areas in adult teeth, the upper central incisors (front two teeth) are most commonly affected. Followed by upper and lower first and second premolar teeth (4th and 5th teeth from the middle), while lower first molars (6th tooth from the middle) are least commonly affected.¹⁰

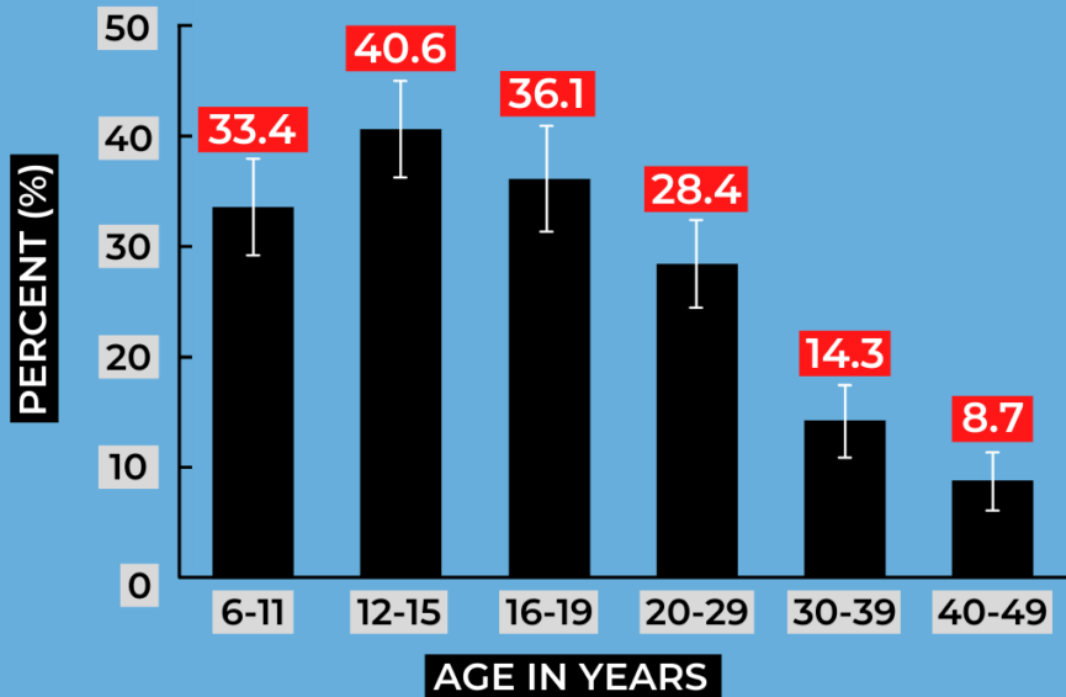


How Common Is Dental Fluorosis?

Before the widespread adoption of fluoride in dental products, dental fluorosis was hard to come by in western countries.

Since then, with the combination of fluoride containing toothpaste, mouthwash and other sources of fluoride, dental fluorosis has become common.

HOW COMMON IS DENTAL FLUOROSIS?



This trend continues to rise as later in 2010, the Centers for Disease Control reported 41 % of American adolescents now have dental fluorosis.

An increase from the chart above and a **400%** increase from the time fluoridation began.¹

What Can I Do To Protect My Child's Teeth?

Now I must say, as much as pro-fluoride folks would like you to believe, it's extremely hard to monitor the "right" amount of fluoride for a child to consume.

You'd have to watch your child like a hawk and in real life, this is not reasonable.



This along with the next point is why dental fluorosis is common and growing...

As explained in [what is fluoride](#), fluoride is non-essential to human growth and development, which includes tooth development.^{11,12}

In addition, fluoride provides no benefit to oral health through **ingestion**.^{13,14,15} Whatever small to non-existent benefit fluoride provides would come from direct contact with teeth.

However, this tiny benefit is nothing compared to the dangerous health effects fluoride leads to: [skeletal fluorosis](#), [pineal gland calcification](#), [damaging brain effects](#), and the strong link between [fluoride and Alzheimer's](#).

With that being said, it's clear fluoride is not a magical solution to cavities but a business class ticket to your nearest hospital.

Treatment Of Dental Fluorosis?



Dental fluorosis treatment is limited.

While enamel damage is permanent, tooth discoloration can be reduced and sometimes eliminated. The type of treatment that can treat discoloration, depends on the stage of dental fluorosis:

- **Mild:** Tooth-bleaching.
- **Moderate:** Micro-abrasion, involves sanding off the outer layer of the enamel.
- **Advanced:** Composite Bonding, tooth-colored plastic and glass mixture is glued onto the exterior of effaced areas. Porcelain Veneers are also an option which are custom-made shells of teeth that cover the surface of teeth. Both extremely expensive options.

To determine which option is best, ask a dentist who specializes in cosmetic dentistry.

However, If you choose to cover up the signs of dental fluorosis, you shouldn't forget what they mean and what you should do.

How To Prevent Dental Fluorosis?



If you or your child has dental fluorosis, consider it a blessing in disguise.

Since dental fluorosis is the first sign of fluoride toxicity, if acted on promptly the more serious and eventual health effects can be avoided.

While if your child does not have dental fluorosis, this can also be avoided.

Both require the same two steps.

The first and most important step is to **eliminate fluoride exposure**.

It's as simple as that.

Now, since water is the largest source of fluoride, it's extremely important to drink fluoride-free water, either through the use of [fluoride water filters](#) or [bottled water without fluoride](#).

It's also very important to detox your body of accumulated fluoride.

Once you complete the first step, your body will naturally start to get rid of fluoride that has accumulated in your bones and other parts of your body.

The only con is that this tends to be a **very slow process**.

To speed up this process, in the [fluoride detox guide](#) I've included the best nutrients that help fight, protect and most importantly detox your body from fluoride toxicity.

Now I must say, you'll be surprised how easy these changes are.

It's not like other health changes such as, going to the gym, quitting smoking or changing your diet.



**STEP 1: STOP SENDING AMMUNITION TO
THE BAD GUYS (ELIMINATE FLUORIDE EXPOSURE)**

**STEP 2: START SENDING AMMUNITION TO
THE GOOD GUYS (FLUORIDE DETOX)**

STEP 3: ENJOY A HEALTHY FAMILY AND SELF

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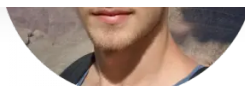


TRUTH ABOUT FLUORIDE

#1 Resource For Reliable and Useful Fluoride Information

Providing you the tools and information you need to avoid a classified neurotoxin with ease.

- ✓ **Evidence Based:** information is based on scientific literature.
- ✓ **Independently Tested:** tests are independently tested (water filters, teas, bottled water, etc.) to ensure unbiased results.
- ✓ **Self Funded:** the website is solely funded by the owner + donations made by readers. Keeping the information pure and objective.



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Casey J Krol

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