

Fluorosis

By Chulan Xu



What is Fluorosis?

- **Fluorosis** is not a disease, it is a cosmetic condition.
- Normally it does not affect the function of the teeth or cause pain.
- Characterized by staining and pitting of the teeth.
- The teeth could be white, yellow, brown, black spots or streaks on the enamel surface.
- **Discoloration** is away from the gums and bilaterally symmetrical.



Cause

- Fluorosis is caused by excessive consuming of fluoride during **first 8 years** of life, when permanent teeth are developing.
- Only **children** aged 8 years and younger are at risk.
- **Children** older than 8 years, adolescents, and adults cannot develop dental fluorosis.



Treatment

- **Very mild cases:** Do not need treatment.
- **Mild cases:** Tooth bleaching.
- **Moderate cases:** Enamel micro-abrasion.
- **Severe cases:** Composite fillings, Micro-abrasion, Veneers, and Crowns.

(Most cases are mild, only about 2% are considered moderate to severe.)

Normal



Questionable



Very mild



Mild



Moderate



Severe



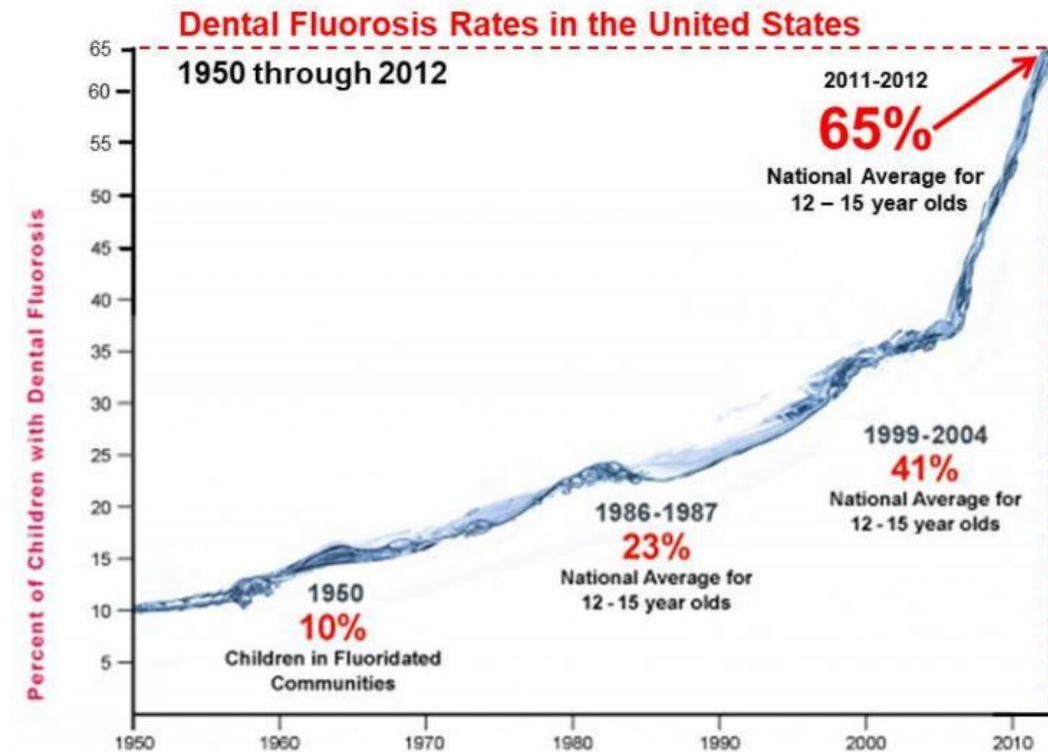
VENEERS

By Dr Maurice Johannes
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How common is Fluorosis?

- **Fluorosis** affects nearly one in every four Americans from **ages 6 to 49**.
- Most prevalent in those **ages 12 to 15**.



Fluoride

- Fluoride can protect teeth from decay.
- However, **too much** fluoride can lead to dental fluorosis or skeletal fluorosis, which can damage bones and joints.



Foods High in Fluoride



Fluoridated water



Tea



Grape juice



Chicken



Sardine

Age group	Reference weight kg (lb)	Adequate intake (mg/day)	Tolerable upper intake (mg/day)
Infants 0–6 months	7 (16)	0.01	0.7
Infants 7–12 months	9 (20)	0.5	0.9
Children 1–3 years	13 (29)	0.7	1.3
Children 4–8 years	22 (48)	1.0	2.2
Children 9–13 years	40 (88)	2.0	10
Boys 14–18 years	64 (142)	3.0	10
Girls 14–18 years	57 (125)	3.0	10
Males 19 years and over	76 (166)	4.0	10
Females 19 years and over	61 (133)	3.0	10

Type of food	Concentration F ⁻ (ppm) 1 mg/L = 1 ppm
black tea	3-5
shellfish products (shrimps, clams)	2-3
wine	1-2
green tea	1.2
chips	0.7
beer	0.5
boiled or baked pork	0.42
boiled rice	0.41
salami	0.4
bread (with or integral)	0.39
cheddar cheese	0.35
boiled or raw beef	0.22
tuna	0.2
chicken meat	0.15
plain yogurt	0.12
spirits	0.09
avocado	0.07
boiled pasta	0.07
radish	0.06
green salad	0.05
peach, strawberry	0.04
apple	0.03
milk, cream	0.03
banana	0.02
tomato	0.02
eggs	0.01
cucumber, onion, celery	0.01

Table 1. Fluoride concentrations for different types of food.
Source: United States Agriculture Department (USDA), 2005.

Dietary reference intakes for Fluoride (Avoid Fluorosis)

Role of Dental Team

To Prevent Fluorosis:

- Advise children can not brush teeth more than 2 times a day with a fluoride toothpaste.
- Apply no more than a pea-sized amount of toothpaste to the toothbrush.
- Encouraging the child to spit out toothpaste rather than swallow it.
- Should not exceed drinking fluoridated water.



*Thanks for
watching*





Sources

- <https://www.webmd.com/children/fluorosis-symptoms-causes-treatments#1>
 - https://www.cdc.gov/fluoridation/faqs/dental_fluorosis/index.htm
 - <https://www.who.int/teams/environment-climate-change-and-health/water-sanitation-and-health/burden-of-disease/other-diseases-and-risks/fluorosis>
 - <https://www.ndtv.com/health/want-to-get-rid-of-white-spots-on-teeth-try-these-6-home-remedies-right-now-1939791>
 - <https://www.hhs.gov/answers/health-insurance-reform/how-can-i-prevent-dental-fluorosis/index.html>
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