PUBLIC HEARING

Please Take Notice, the Village of Albion Board of Trustees will hold a PUBLIC HEARING on Wednesday, March 26, 2025, at 6:00 PM in the Village of Albion Board room, 35 East Bank Street, Albion NY 14411 to consider eliminating fluoride into the drinking water supply.

February 27, 2025
Tracy A VanSkiver
Clerk-Treasurer
Village of Albion

PUBLIC NOTICE

DISCONTINUANCE OF FLUORIDATED WATER
VILLAGE OF ALBION

After reviewing various studies and multiple sources of information, the Village of Albion has decided to begin the process of eliminating the addition of fluoride into the drinking water supply, due to the number and severity of risks associated. This document represents the initial notice to the public for an opportunity to be involved in the discussion and final decision pertaining to the process. Information on the studies and research has been compiled into a slideshow presentation, which will be available at the Village of Albion Office. This presentation contains a history of fluoride, summaries of research papers and articles from health professionals and scientists explaining the benefits and risks of fluoride, and alternatives to fluoride. The Orleans County Health Department has provided the village of Albion with the proper steps and procedures to initiate and finalize this process, which will also be available at the Village of Albion Office

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§ 1100-a. Fluoridation.

1. Notwithstanding any contrary provision of law, rule, regulation or code, any county, city, town or village that owns both its public water system and the water supply for such system may by local law provide whether a fluoride compound shall be added to such public water supply.

2. Any county, wherein a public authority owns both its public water system and the water supply for such system, may by local law provide whether a fluoride compound shall be added to such public water supply.

3. No county, city, town or village, including a county wherein a public authority owns both its public water system and the water supply for such system, that fluoridates a public water supply or causes a public water supply to be fluoridated, shall discontinue the addition of a fluoride compound to such public water supply unless it has first complied with the following requirements: (a) issue a notice to the public of the preliminary determination to discontinue fluoridation for comment, which shall include the justification for the proposed discontinuance, alternatives to fluoridation available, and a summary of consultations with health professionals and the department concerning the proposed discontinuance. Such notice may, but is not required to, include publication in local newspapers. "Consultations with health professionals" may include formal studies by hired professionals, informal consultations with local public health officials or other health professionals, or other consultations, provided that the nature of such consultations and the identity of such professionals shall be identified in the public notice. "Alternatives to fluoridation" may include formal alternatives provided by or at the expense of the county, city, town or village, or other alternatives available to the public. Any public comments received in response to such notice shall be addressed by the county, city, town or village in the ordinary course of business; and

(b) provide the department at least ninety days prior written notice of the intent to discontinue and submit a plan for discontinuance that includes but is not limited to the notice that will be provided to the public, consistent with paragraph (a) of this subdivision, of the determination to discontinue fluoridation of the water supply, including the date of such discontinuance and alternatives to fluoridation, if any, that will be made available in the community, and that includes information as may be required under the Sanitary Code.

4. The commissioner is hereby authorized, within amounts appropriated therefor, to make grants to counties, cities, towns or villages that own their public water system and the water supply for such system, including a county wherein a public authority owns both its public water system and the water supply for such system, for the purpose of providing assistance towards the costs of installation, including but not limited to technical and administrative costs associated with planning, design and construction, and start-up of fluoridation systems, and replacing, repairing or upgrading of fluoridation equipment for such public water systems. Grant funding shall not be available for assistance towards the costs and expenses of operation of the fluoridation system, as determined by the department. The grant applications shall include such information as required by the commissioner. In making the grant awards, the commissioner shall consider the demonstrated need for installation of new fluoridation equipment or replacing, repairing or upgrading of existing fluoridation equipment, and such other criteria as determined by the commissioner. Grant awards shall be made on a competitive basis and be subject to such conditions as may be determined by the commissioner.

Fluoride

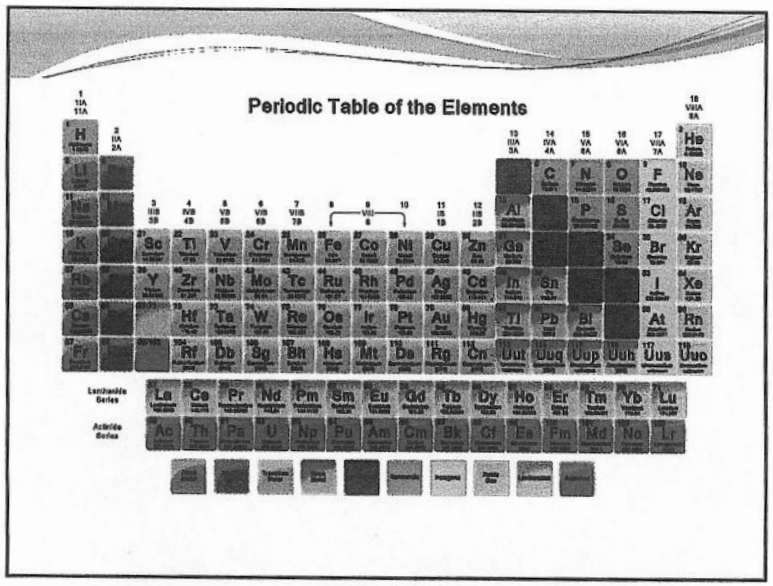
Research and Presentation by:
Bethel Village of Albion Laboratory Director, Todd Sherman

Fluoride is actually an ion (F-) of the chemical element Fluorine (F)

When Fluorine Gas, or an acid or salt containing Fluorine is dissolved in water, that chemical disassociates into ions

$NaF + H_2O \rightarrow H_2O + Na^+ + F^-$

. . . But it's a little more complicated than that



The Halogens

halogen	molecule	Structure	model	atomic No.	electro negativity	first Ionization energy	toxicity
fluorine	F_2	F-F ↔ 143 pm		9	4.0	1681	extremely
chlorine	Cl_2	Cl Cl ↔ 199 pm		17	3.0	1251	very
bormine	Br_2	Br Br ↔ 228 pm		35	2.8	1140	moderately
iodine	I_2	I I ↔ 266 pm		53	2.5	1008	somewhat

Astatine (atomic No.85), diatomic structure not yet known

In water , fluorine behaves/reacts similarly to chlorine

But more readily and forming stronger bonds

Because of its high electronegativity – it has an affinity towards elements with positively charged ions such as Calcium (++) and Aluminum (+++)

But it will also bond with Carbon - forming the strongest bonds in organic chemistry - very tough to break once formed – this is what makes Teflon so tough and resistant to chemical breakdown

The whole story of how and why would fill 100 pages or more

A very brief history of how this started is on the next slide

In the early 1900s there was an investigation into a malady affecting children in the mountain states known as "Colorado Brown Stain" (dental fluorosis)

Despite the physical appearance of the teeth , these children were found to have fewer cavities than other children

In 1931 researchers from ALCOA (Aluminum Company of America) determined that high fluoride levels found in ground water (2 to 14 mg/L) were from the dissolved mineral Cryolite in Pikes Peak rock formations

Dental researchers, funded by ALCOA, discovered that people in areas with lower fluoride concentrations did not have staining, but still had fewer cavities

By the late '30s several dentists had suggested adding fluoride to drinking water

Mid '40s s - 4 studies were done - fluoridated vs non fluoridated water supplies

1945 – Grand Rapids, Michigan became the first community to add fluoride to drinking water in an attempt to benefit dental health

Fluoride was first added to toothpaste in Germany, in the 1890s. An analogous invention in the United States, was initially criticized by the American Dental Association (ADA) in 1937.

Procter & Gamble started a research program in the early 1940s.

In 1950, Procter & Gamble developed a joint research project team at Indiana University to study new toothpaste with fluoride.

In 1955, Procter & Gamble's Crest launched its first clinically proven fluoride-containing toothpaste.

On August 1, 1960, the ADA reported that "Crest has been shown to be an effective anticavity (decay preventative) dentifrice that can be of significant value when used in a conscientiously applied program of oral hygiene and regular professional care."

55 [illegible] preparations (dentifrice, mouthwash, tablets, etc.) Fluoride history [illegible] Retrieved on April 4, 2022

Fluoride-containing toothpaste can be acutely toxic if swallowed in large amounts. Approximately 15 mg/kg body weight is the acute lethal dose, even though as small amount as 5 mg/kg may be fatal to some children.[23]

The risk of using fluoride is low enough that the use of full-strength toothpaste (1350–1500 ppm fluoride) is advised for all ages. However, smaller volumes are used for young children, for example, a smear of toothpaste until three years old.[24]

A major concern of dental fluorosis is for children under 12 months ingesting excessive fluoride through toothpaste. Nausea and vomiting are also problems which might arise with topical fluoride ingestion.[25]

23 Canedy D (March 24, 1998). "Toothpaste a Hazard? Just Ask the F.D.A.". New York Times. Retrieved December 21, 2008.
24 Delivering Better Oral Health: An evidence-based toolkit for prevention. NHS, UK, 2007.
25 Kidd E, Fejerskov O (2016). Essentials of Dental Caries. Oxford University Press. p. 97. ISBN 978-0-19-873826-8.

Now Wait a Minute ...

So... Fluoride was added to drinking water in the United States BEFORE it was approved for use in toothpaste

Was it adequately tested for safety in either product ?

Or the long term effects of daily use over several years ?

Remember, this was the 1950s ... back when there was lead in paint and in gasoline (and lead water lines)

Asbestos in everything from floor tiles to wall coverings to cigarette filters ... DDT ... PCBs ... Thalidomide ...

We do things differently now ... don't we ?

How does Fluoride work ?

Fluorine achieves this by replacing hydroxyapatite ($Ca_5(PO_4)_3OH$) with fluoroapatite ($Ca_5(PO_4)_3F$).

Fluoroapatite is more resistant to acid attack and thus teeth which contain even a small proportion of fluoroapatite are less likely to decay. The relevant reactions are as follows:

Tooth decay:

$$Ca_5(PO_4)_3OH(s) + 4H_3O^+(aq) \rightarrow 5Ca^{2+}(aq) + 3HPO_4^{2-}(aq) + 5H_2O(l)$$

Fluoridation:

$$Ca_5(PO_4)_3OH(s) + F^-(aq) \rightarrow Ca_5(PO_4)_3F(s) + OH^-(aq)$$

CDC - For 65 years, community water fluoridation has been a safe and healthy way to effectively prevent tooth decay. CDC has recognized water fluoridation as one of 10 great public health achievements of the 20th century.

WHO - Fluoride has both beneficial and detrimental effects on human health. In terms of dental health, the prevalence of dental caries is inversely related to the concentration of fluoride in drinking water; while there is a dose-response relationship between the concentration of fluoride in drinking water and the prevalence of dental fluorosis. In terms of general health, in communities where drinking water and foodstuffs are excessively high in fluoride, skeletal fluorosis and bone fracture are the most relevant adverse effects. However, there are also other sources of fluoride.

Reasons NOT to Fluoridate

1) SAFETY (from H_2SiF_6 safety data sheet)...

Hazardous decomposition products formed under fire conditions.

- Corrosive - Harmful by inhalation, in contact with skin and if swallowed

Potential Health Effects:

Inhalation - Inhalation of vapors is irritating to the respiratory system, may cause throat pain and cough. - Breathing difficulties - Aspiration may cause pulmonary edema and pneumonitis. - At high concentrations, risk of hypocalcemia with nervous problems and cardiac arrhythmia.

- Repeated or prolonged exposure: sore throat, Nose bleeding, chronic bronchitis.

Eye contact - May cause permanent eye injury. - May cause blindness.

Skin contact - Causes severe burns. - Risk of shock.

- In case of contact with fingernails, severe pain after several hours.
- Risk of hypocalcemia following the extent of the lesions.
- Symptoms: Irritation, Redness, Swelling of tissue.

Ingestion - If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach. - Risk of throat edema and suffocation.

- Risk of chemical pneumonitis from product inhalation.
- Risk of hypocalcemia with nervous problems and cardiac arrhythmia.
- Risk of convulsions, loss of consciousness, deep coma and cardiopulmonary arrest.

Nausea, Bloody vomiting, Abdominal pain, Diarrhea, Cough, Severe shortness of breath.

HYDROFLUOSILICIC ACID

AVOID CONTACT WITH SKIN, EYES, MOUTH & CLOTHING

AVOID BREATHING FUMES OR VAPOR

DANGER POISON

DO NOT TAKE INTERNALLY

WARNING

DIRECTIONS FOR WATER FLUORIDATION: Application of this product for water fluoridation is subject to approval of all interested state and local health authorities. Its use should conform to the American Water Works Association's "Statement of Recommended Policy and Procedure."

Exact dosage must not raise the total fluoride concentration in drinking water above 1.5 ppm (U.S. Public Health Service maximum limit).

IF MATERIAL IS SPILLED OR RELEASED, NEUTRALIZE WITH LIME AND DISPOSE AS CALCIUM FLUOSILICIC WASTE

SPECIAL PROTECTION INFORMATION: RESPIRATORS APPROVED FOR FLUORINE, RUBBER GLOVES, CHEMICAL GOGGLES AND A PROTECTIVE APRON OR ACID RESISTANT CLOTHING SHOULD BE USED SPECIAL PRECAUTIONS SHOULD BE TAKEN IN HANDLING AND STORING MATERIAL: AVOID STORAGE IN GLASS CONTAINERS.

WHEN MATERIAL IS CONTACTED WITH FIRE, FLUORIDE GAS MAY BE RELEASED. OVEREXPOSURE TO MATERIAL MAY CAUSE CONSTRICTED BREATHING COUGHING, SKIN REDNESS, OR BURNING OF THE THROAT.

ANTIDOTE

SKIN: COPIOUS AMOUNTS OF WATER FOR 15 MINUTES.
INTERNAL: CONTACT PHYSICIAN
OTHER: CONSULT PHYSICIAN IN THE EVENT INGESTION HAS OCCURRED.
GIVE COPIOUS AND REPEATED AMOUNTS OF WATER OR A WEAK SOLUTION OF CALCIUM CHLORIDE

2) 99% of it is "wasted"

that is ... not ingested

The intent of fluoridated water is that the fluoride is consumed by customers – either by drinking it, or in foods prepared with the water

Less than one percent of the water is actually consumed !!!

Most of the water is used for laundry, washing dishes, bathing, flushing toilet, washing cars, watering the lawn / garden ...
Industry, and in this area especially - Agriculture

Most of that fluoride ends up in the environment ...
Through the sewage treatment and septic systems, into the soil and produce grown with it ... and ultimately back into our lake

3) We get Fluoride from many other sources

All processed foods made with fluoridated water (including dehydrated)

All beverages and juices (especially teas) made with fluoridated water

All crops grown with fluoridated water or in fluoride rich soils

All food stuffs treated with fluoride containing pesticides

... Will contain some amount of fluoride

Common Foods and Products with high concentration of Fluoride:

- **Coca Cola, Pepsi and other soda drinks**
– not only because of water used, but also the fluoride concentrations in phosphate syrup.
- **Cereals and other processed foods –**
Because of pesticides on the grains, and evaporation of the water used, leaving fluoride concentrations on the products. (Wheaties and Shredded Wheat both analyzed at 10 and 9.4 times the fluoride than in fluoridated water)
- **Fruit Juices especially non-organic concentrates**
even ones labeled 100% juice (esp. white grape) because of allowed fluoride based pesticides.
- **Non-organic produce has pesticide residues**
The pesticide Cryolite (sodium aluminum fluoride) is allowed on iceberg and romaine lettuces, on potatoes, cabbage, tomatoes, grapes and raisins.
- **Nuts and other products coming from out of country**
are warehoused in buildings fumigated with sulfuryl fluoride.
- **Black & green teas (and instant mixes)**
– the tea plants are often grown in fluoride soils – readily absorbed into leaves.
- **Medications –** such as Prozac, Zoloft, Cipro,Flurazepam, Paxil, Diflucan, Lipitor, Celebrex, Prevacid, Prolixin, Flonaze, Paxipam and more*

4) It works topically – not systemically

Fluoride strengthens the enamel on the outer surface of your teeth.

So rinsing your mouth with fluoridated water may help, but once you swallow it – it does almost nothing for your teeth.

The fluoride is incorporated into every cell of your body , and concentrates in areas that are high in calcium - bones, brain, endocrine system (glands) ... and a very small percentage to the teeth

Ingesting it does not work very well to protect teeth

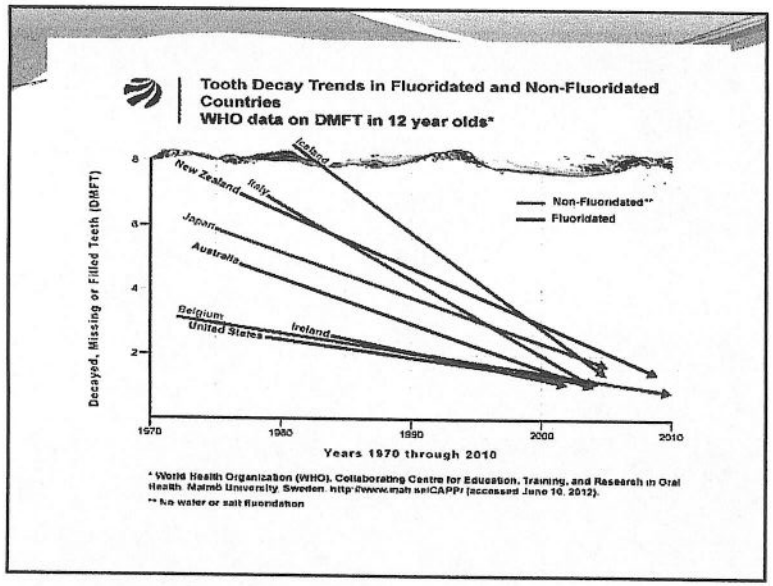
(Whereas brushing with fluoridated toothpaste certainly does)

Despite what you have been told –
Fluoridated water does little to reduce dental decay.

Yes - dental decay in this country has fallen since the addition of fluoride to our water supply

The same is true for all of the other counties which do not Fluoridate

Fluoride in toothpaste - great idea ...
(as long as you don't swallow it – small children should be supervised)
Fluoride in mouthwash and rinses - kind of a good idea
Fluoride in drinking water - not so much .



There is not one biological process that requires fluoride

In fact, fluoride is thought to and likely does interfere with...

- Enzyme activity
- Calcium metabolism
- Thyroid function
- Endocrine regulation
- Immune response

(Hundreds of recent studies are indicating this more and more)

Once in the acidic environment of the stomach some fluoride ions become hydrofluoric acid (HF) which then quickly enter the bloodstream directly though the stomach and small intestine

Highly soluble and very tiny fluoride ions in the blood/plasma/lymph fluid easily penetrate cell membranes

Due to its affinity to calcium – fluoride ions tend to concentrate in areas high in calcium ... bones , brain , glands , kidneys ... and teeth

May also take the place of other halogens (chlorine and iodine) in the body and interfere with their function ... such as in the thyroid gland