New Business #16

COUNTY AGENDA REQUEST

Department:	Commissioners	Presenter(s):	Chairman Steve Brown
Meeting Date:	Thursday, August 14, 2014	Type of Request:	New Business

Wording for the Agenda:

Discussion of the Fayette County's interns' findings and options concerning fluoride in Fayette County's water supply.

Background/History/Details:

During the month of July, Fayette County interns John Hlas and Haider Khan researched the use of fluoride in Fayette County's water supply, and they will offer some options to the Board concerning future fluoride use in Fayette County's water supply.

The interns read extensive studies, articles, and books, and they met with a variety of professionals ranging from regional medical doctors to personnel at the Fayette County Water System in order to formulate the options that will be presented.

What action are you seeking from the Board of Commissioners?

Direction from the Board of Commissioners on how to proceed with recommendations pertaining to fluoride in Fayette County's water supply.

If this item requires funding, please describe:

Not Applicable.

Has this request been considered within the past two years?	No	If so, when?	
Is Audio-Visual Equipment Required for this Request?*	No	Backup Provided with Request?	Yes

**** All audio-visual material must be submitted to the County Clerk's Office no later than 48 hours prior to the meeting. It is also your department's responsibility to ensure all third-party audio-visual material is submitted at least 48 hours in advance.***

Approved by Finance	Not Applicable	Reviewed by Legal	
Approved by Purchasing	Not Applicable	County Clerk's Approval	Yes
Administrator's Approval			

Staff Notes:

Fluoridation of our Water

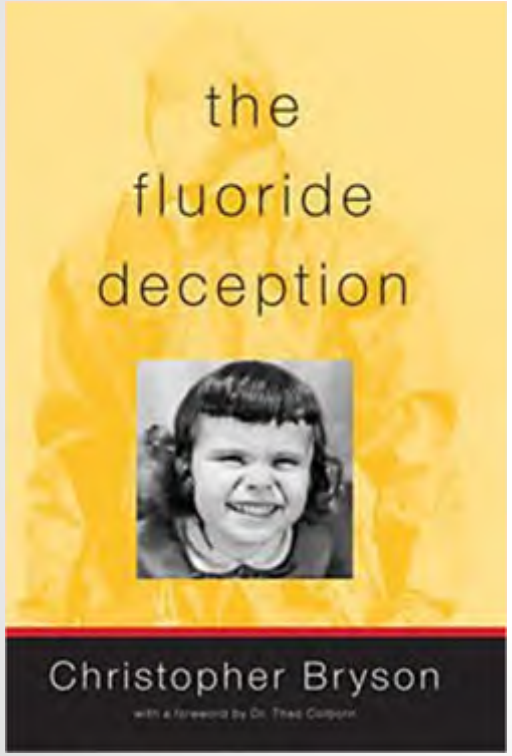
By
John Hlas
Haider Khan

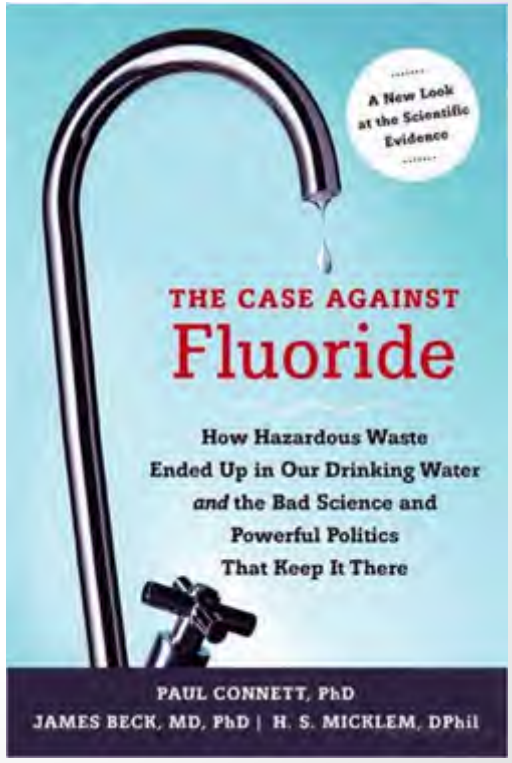
Why are We Here?

One Word,

Controversy

Books Read During Research





What is Fluoride?

- Naturally occurring salt
- Formed when Fluorine, the element, combines with minerals in soil or rocks
- Primarily used for prevention of tooth decay

"Basic Information about Fluoride in Drinking Water." *Home*. EPA, 23 July 2013. Web. 13 July 2014.

History of fluoride

- In the 1940s, scientists discovered that people who lived where drinking water had 1 ppm fluoride or more had fewer dental cavities than people who lived where fluoride levels in drinking water were lower (fluoride is naturally found in soil and water at varying degrees). Many studies have supported this.

http://www.cancer.gov/cancertopics/factsheet/Risk/fluoridated-water

History of fluoride

- On 25th January 1945, Grand Rapids, Michigan, became the first town in the world to be artificially fluoridated.
- On June 1, 1950, the U.S Public Health Service endorsed fluoridation without much fanfare, only being put as a small item on the ADA Newsletter (pg. 78).
- Source: *The Case Against Fluoride*
- http://www.nature.com/bdj/journal/v199/n7s/full/4812863a.html

“You don’t have to force it on people”

"Sweden rejected fluoridation in the 1970s and, in this excellent book [The Case Against Fluoride], these three scientists have confirmed the wisdom of that decision. Our children have not suffered greater tooth decay, as World Health Organization figures attest, and in turn our citizens have not borne the other hazards fluoride may cause. In any case, since fluoride is readily available in toothpaste, you don't have to force it on people.“

--Arvid Carlsson, Nobel Laureate in Medicine or Physiology (2000) and Emeritus Professor of Pharmacology, University of Gothenburg

Only Countries where over half of their population drinks fluoridated water

Brunei	Singapore
Australia	New Zealand
Chile	U.S
Malaysia	Israel
Ireland	Hong Kong

http://www.bfsweb.org/onemillion/onemillion2012.html

Countries that Don’t Fluoridate Their Water (not limited to)

Japan, Austria, Belgium, Denmark, Germany, Finland, France, Sweden, etc.

Department of Community Dentistry and Public Health, Tsurumi University, Yokohama, Japan
Tomioka-Kanra Dental Association, Tomioka, Japan
http://books.google.com/books?id=IZaaWuNbiAkC&pg=RA2-PT136&lpg=RA2-PT136&dq=West+Germany+fluoride&source=bl&ots=B2M67Yrd5b&sig=af7q6h56d9SZOwC8PlPOr4ho_qw&hl=en&sa=X&ei=FO-_U97LIs20yASIv4KwBQ&ved=0CE0Q6AEwCQ#v=onepage&q=West%20Germany%20fluoride&f=false
"." Editorial. *Wall Street Journal* east. ed. 24 Oct. 2003: A14. Print.
Eisenhut, M. Fluoridation of Drinking Water." Letter to Eugene Albright. 28 Feb. 2010. MS. Belgaqua, Brussels, Belgium.
Legros, ChrisLetter to Eugene Albright. 2 Feb. 200. MS. Gas Wasser, Vienna, Austria.
Werner, KlausLetter to Eugene Albright. 22 Dec. 1999. MS. Royal Danish Embassy, Washington D.C, U.S.
Hisviirta, Leena, Letter to Eugene Albright. 7 Feb. 2000. MS. Helsinki Water, Helsinki, Finland.
"One in a Million: The Facts about Water Fluoridation." *British Fluoridation Society*. British Fluoridation Society, Nov. 2012. Web. 10 July 2014.
Sanchez, L. Letter to Eugene Albright. 26 Oct. 2000. MS. Direction De La Protection De L'enviorment, Paris, France.
Khan, Gerda H. Letter to A.R Smith. N.d. MS. Embassy of F.R Germany, London, England.
Guzikowski, Gummar. Letter to Eugene Albright. 28 Feb. 2000. MS. National Food Administration, Uppsala, Sweden

Facts about Fluoride

- Most developed countries do not fluoridate their water.

- Developed countries with fluoridated water do not have less tooth decay than non-fluoridated countries.

"One in a Million: The Facts about Water Fluoridation." *British Fluoridation Society*. British Fluoridation Society, Nov. 2012. Web. 10 July 2014.
"EURO." *Oral Health Database*. Malmö University, n.d. Web. 10 July 2014.

Fluoride helps prevent tooth decay because "Fluoride concentrated in plaque and saliva inhibits the demineralization of sound enamel and enhances the remineralization (i.e., recovery) of demineralized enamel (*12,13*)."

"Recommendations for Using Fluoride to Prevent and Control Dental Caries in the United States." *Centers for Disease Control and Prevention*. Centers for Disease Control and Prevention, 17 Aug. 2001. Web. 29 July 2014.

Swallowing fluoride provides little benefit for teeth

"Laboratory and epidemiologic research suggests that fluoride prevents dental caries predominantly after eruption of the tooth into the mouth, and its actions primarily are topical for both adults and children."

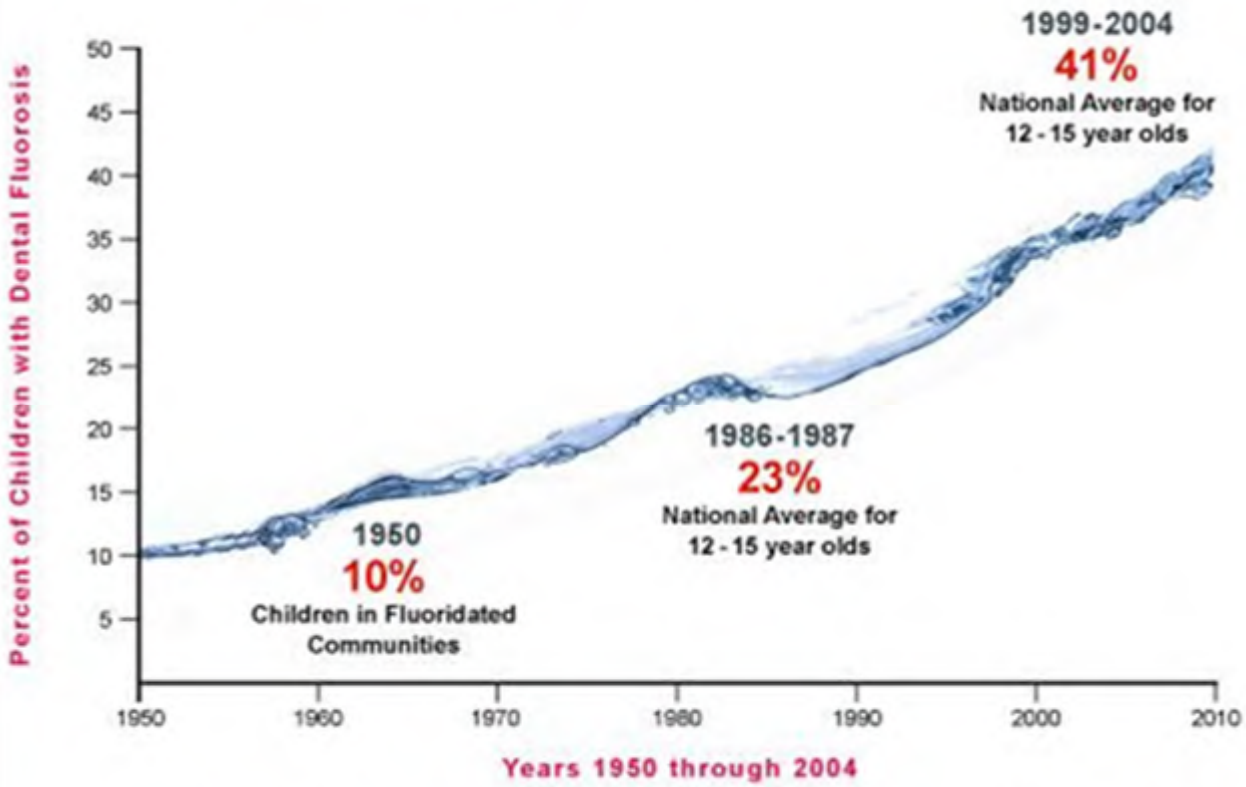
Centers for Disease Control and Prevention, 22 Oct. 1999. Web. 07 July 2014.

Products which contain fluoride

- Fluoride has no benefits for infants
- The only clear negative side effect of excessive fluoride is dental Fluorosis
- Dental Fluorosis generally occurs in children ages 8 years and younger; “this is when permanent teeth are developing under the gums.”

"Water-related Diseases." *WHO*. World Health Organization, n.d. Web. 10 July 2014.
"FAQs for Dental Fluorosis." *Centers for Disease Control and Prevention*. Centers for Disease Control and Prevention, 10 July 2013. Web. 08 July 2014.

Dental Fluorosis Rates in the United States:
1950 through 2004



Beltran ED, et al. (2010). Prevalence and Severity of Dental Fluorosis in the United States, 1999-2004. NCHS Data Brief No. 53. Figure 3.

National Research Council. (1993). Health Effects of Ingested Fluoride. National Academy Press, Washington DC. p. 4-5.

Many studies show that tooth decay rates stay the same or go down after fluoridation is discontinued.

Some examples of study locations which affirm this are Kuopio (Finland), LaSalud (Cuba), Chemnitz and Plauen (East Germany), Durham (North Carolina), British Columbia (Canada), and Tiel and Culemborg (Netherlands).

Seppä, L., Käarkkäiinen S., Hausen H. "Caries Trends 1992-1998 in Two Low-fluoride Finnish Towns Formerly with and without Fluoridation." *National Center for Biotechnology Information*. U.S. National Library of Medicine, Nov.-Dec. 2000. Web. 10 July 2014.

Künzel, W., Fischer, T."Caries Prevalence after Cessation of Water Fluoridation in La Salud, Cuba." *National Center for Biotechnology Information*. U.S. National Library of Medicine, Jan.-Feb. 2000. Web. 10 July 2014.

Künzel, W., Fischer, T., Lorenz R., Brühmann S., "Decline of Caries Prevalence after the Cessation of Water Fluoridation in the Former East Germany." *National Center for Biotechnology Information*. U.S. National Library of Medicine, Oct. 2000. Web. 10 July 2014.

Burt, BA., Keels MA., Heller KE., "The Effects of a Break in Water Fluoridation on the Development of Dental Caries and Fluorosis." *National Center for Biotechnology Information*. U.S. National Library of Medicine, Feb. 2000. Web. 10 July 2014.

Some studies suggest that tooth decay may increase with discontinued water fluoridation

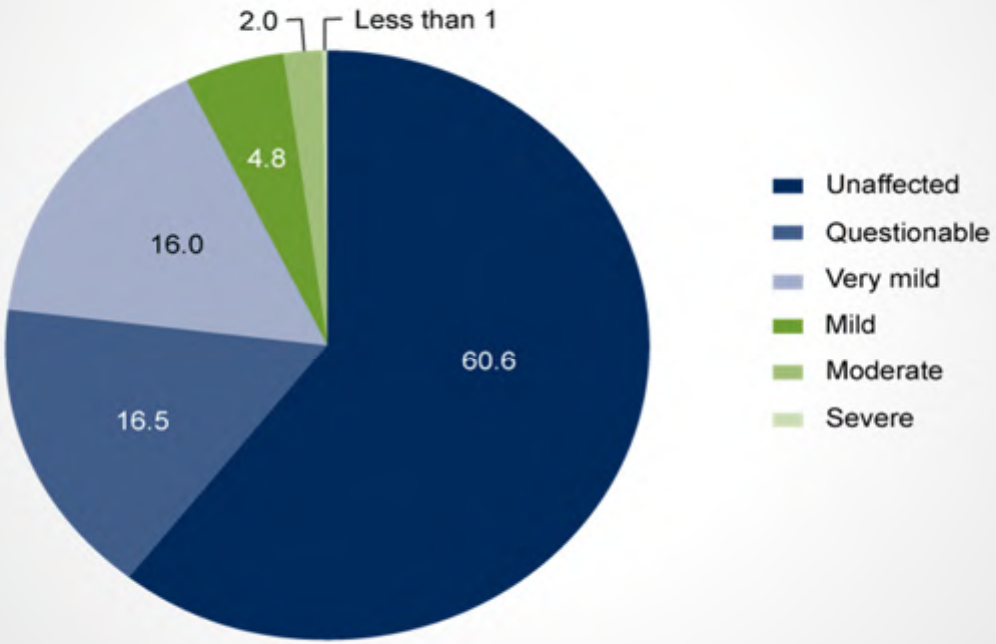
- The Antigo, Wisconsin Case:
  - After Five and Half Years without optimal levels of flouride,
    - Second grade children had over 200% more decay,
    - Fourth graders 70% more decay,
    - Sixth graders 91% more decay,

The City reinstated water fluoridation based on the effect on childrens' health.

Source- Dixianne Parker, RDH, MEd- Fluoridation Specialist

Dental Fluorosis

Figure 1. Percent distribution of dental fluorosis among persons aged 6–49: United States, 1999–2004



NOTES: Dental fluorosis is defined as having very mild, mild, moderate, or severe forms and is based on Dean's Fluorosis Index. Percentages do not sum to 100 due to rounding.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey, 1999–2004.

Treatment for Fluorosis

- Bleaching
- Crowning

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC288380

- So are There Benefits for the Practice?
  - “[...] tooth decay has decreased from 6.2 to 2.6”
  - “[...] that water fluoridation prevented between 30%-50% of tooth decay in children”
  - Provides fluoride to those who cannot afford it in other sources

Sources- Scientific American and NALBOH

Does Fluoridated Water Cause This?

- Alzheimer's ---- Data Indicates No Correlation

Alzheimer's Association. *2012Report.*2012.Alzheimer'sAssocoation.2012.Web.9 July 2014

- ADHD ---- Data Indicates No Correlation

CDC.*CDC.gov*. 2012. Center for Disease Control, 2012. Web. 7 July 2014.

- Arthritis ---- Data Indicates No Correlation

CDC.*CDC.gov*. 2012. Center for Disease Control, 2012. Web. 7 July 2014.

Studies on Fluoride in Relation IQ

- Chinese meta-analysis with Harvard
  - “[...] all [27] but one study suggest that high fluoride content in water may negatively affect cognitive development”(Page 1)

Dwyer, Marge. Harvard School of Public Health. 25 July, 2012. HSPH, 2012. Web. 8 July, 2014.

- GA Health Policy Center
  - “Studies in China [...] have questionable study designs. Studies in Mexico and the US suggest fluoridation has no correlation with IQ”(Page 3).

Georgia Health Policy Center, Georgia State University, National Research Council Health Effects of Ingested Fluoride. July 2011. GAHPC, 2011. Web. 9 July, 2014.

The City of Dallas

- Although, water fluoridation had been proposed to be removed- this proposition did not pass
  - Final Vote:
    - 28.7%-For
    - 71.2%-Against

Source: The City of Dallas Records Office

Pinellas, Fl. and Suffolk, Ny. Counties

Pinellas County

Approved Water Fluoridation

on

Nov. 29, 2012, with implementation on March 1, 2013

Suffolk County

-No-

Fluoride is not added into the water supply

The Cost of Fluoridated Water

- **The City of Dallas-** 25 cents per person per year (Est. $600,000).

  Source: The City of Dallas Secretary Records

- **In Fayette County-** 30 cents per person per year (Est. $23,439).

  Source: Mr. Lee Pope, Water System Director

Studies on the Cost of Fluoridated Water

"A peer reviewed CDC study found that , in communities with more than 20,000 residents, every $1 that is invested in community water fluoridation about $38 in savings a year from fewer cavities treated"

- Colorado and Analyses' Studies

From Scientific American and NALBOH Study

Gov. Departments and Organizations

These organizations support fluoridated water:

-(*But not limited to*)-

- American Dental Association (ADA)
- Center for Disease Control (CDC)
  - "CDC promotes effective public health practices, such as community water fluoridation."
- The World Health Organization (WHO)
- American Medical Association (AMA)
- The American Water Works Association (AWWA)
- The Canadian Medical Association (CMA)

Sources: The Gov. Departments and Organizations Websites

Options

1. Keep Fluoride in the Water
2. Solicit a petition for a referendum on the Discontinuation of Water Fluoridation
3. A Plan to Please Both Sides:
   - (O.C.G.A./12-5-175)- allow people to get fluoride removing pumps who want flouride out of their water and keep fluoridated water in the community.