AGENDA ITEM NUMBER: 3

City of Sebastopol
Council Agenda Report

SEBASTOPOL
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Meeting Date: April 30, 2013

Agenda Report Reviewed by: City Manager

To: Honorable Mayor and City Councilmembers

From: Councilmember Patrick Slayter

Subject: Discussion and action to provide information from multiple sources on the topic of public water fluoridation.

Recommendation: That the Council discuss and act on providing multiple sources of information on the topic of water fluoridation to residents of Sebastopol.

Funding

Currently Budgeted: ___ Yes ___ No **XXX N/A**
Net General Fund Cost:
If Cost to Other Fund(s),
Fund
Amount

Background:

The Next Step newsletter, which is sent out in the City of Sebastopol water and sewer bills, recently included an article about the topic of public water fluoridation.

Discussion:

This agenda item is not a discussion about any possible fluoridation of water supplied by the City of Sebastopol. Fluoridation of water has not been discussed by the City, is not anything being planned by the City, and would be virtually impossible for a number of technical reasons.

This is also not a discussion about the City of Sebastopol making an official policy regarding the fluoridation of public water sources outside City limits.

However, in the interest of providing as much information as possible to the residents of Sebastopol, and in order to make a fully informed decision about this issue, I feel it is important for the City to provide as much information as possible on the topic of water fluoridation.

The Sonoma County Department of Health Services has advocated for fluoridation, which is a position counter to that taken by the editor of the City-distributed The Next Step newsletter. This proposal is to provide information from the Sonoma County Department of Health Services in a method consistent with that of the information which was previously disseminated.

Attachment:

Information from the Sonoma County Department of Health Services

County of Sonoma California

Department of Health Services

Water Fluoridation

Our Oral Health is at Risk

Tooth decay (dental caries) is an infectious disease affecting both children and adults. It is probably the most common - yet the most preventable - disease known to man. By the age of 18, about 80 percent of American children have experienced tooth decay. While the occurrence of tooth decay in the U.S. has declined over the last 30 years, certain groups suffer more than others from dental disease - including both low-income and minority children.

Several factors affect an individual's dental health:

- the rate of tooth decay and other dental problems;
- their ability to get and pay for dental treatment;
- diet and use of baby bottles; and
- fluoride levels in the water supply.

Unfortunately, those individuals at highest risk of dental disease are also the least likely to have access to routine professional dental care. The public belief - especially among those who can afford dental care or have dental insurance - is that tooth decay is a natural and minor issue that deserves little attention or dollars. However, if left untreated tooth decay can lead to needless pain and suffering; difficulty in speaking, chewing, and swallowing; lost school days; increased cost of care; and loss of self-esteem. In 1996, children ages 5 to 17 years missed 1,611,000 school days due to acute dental problems - an average of 3.1 days per 100 students.

The good news is that most oral diseases can be prevented. Some of the methods to prevent tooth decay include dental sealants, drinking fluoridated water, using toothpaste that contains fluoride, limiting sugar intake, and having access to dental care. (Sonoma Smiles Survey, 2009) Sonoma County is working towards facilitating all of these measures.

Fluoride: A Proven Solution

Fluoride is a proven way to prevent tooth decay in children and adults. Treating drinking water with fluoride, or "fluoridation" has been shown to decrease tooth decay. The mean number of decayed, missing or filled teeth in 12 year olds went down by two thirds, from 4 teeth in the 1960's to 1.3 in 1988-94, mainly due to fluoridation. Nevertheless policymakers seeking to fluoridate the public water supplies have repeatedly met with the

barriers of cost and infrastructure challenges, as well as a group expressing public opposition, often based on misperceptions of the benefits and risks of fluoride.

Most Sonoma County children do not have access to fluoridated drinking water. As a consequence they are suffering high rates of preventable tooth decay. Fluoridated drinking water has proven to be the most effective public health measure for prevention of tooth decay. Though most Americans, 72%, receive fluoride through the public water supply, the vast majority of Sonoma County residents do not: only 3% of the public water supply in Sonoma County is fluoridated. Among the cities, only Healdsburg fluoridates its water. Those living outside the cities may draw their drinking water from private wells and usually do not fluoridate the water they draw.

To learn more about the benefits of community water fluoridation for Sonoma County, please visit:

www.ilikemyteeth.org

www.fluorideworks.org

www.cdc.gov/Fluoridation

Water Fluoridation: Dental Health Fact Sheet

What is Tooth Decay?

- Tooth decay (also known as dental caries or dental cavity) is an infectious disease in which bacteria dissolve the enamel surface of a tooth. Untreated, the bacteria may penetrate the underlying tooth structure and progress into the soft pulp tissue.
- Tooth decay can cause excruciating pain, and lead to tooth extraction and loss of dental function.
- Pain from untreated dental disease can lead to eating, sleeping, speaking and learning problems in children which affect social interaction, school performance and health related quality of life.
- Tooth decay affects people of all ages, but can strike older adults most severely, generating tooth loss, pain and great expenses
- The major causative factor for this disease is acids produced by bacterial plaque on the tooth surface. Bacteria break down the sugars in the mouth and convert it into acids.
- According to the Centers for Disease Control and Prevention (CDC), in the United States tooth decay is the most common chronic disease in children - 5 times more common than asthma.

Tooth Decay Starts in Children: Sonoma County Children's Smile Survey

- According to the Sonoma Smiles Survey 2009, about 1 in 6 kindergarteners and third graders had untreated tooth decay.
- Latino children are more severely affected, with about 2 in 3 Latino kindergartners having tooth decay experience, compared to 1 in 3 of their White counterparts.
- Children from low income areas were more than twice as likely to be affected as those living in wealthier areas families. Children in "Higher Income" schools (where less than 25% of students are eligible for Free lunch) were compared to "Lower

Income" schools (at least 75% of students eligible for free lunch). One in three students from "Higher Income" school experienced tooth decay (30.6%) compared with two of every three (67.3%) students in "Lower Income" schools.

- Sonoma County has not achieved the federal governments "Healthy People 2010" objectives of reducing the proportion of children with untreated dental decay or tooth decay experience.

Tooth Loss among Adults

- Tooth decay and related gum disease are the main causes for tooth loss among adults.

Key Points

- Tooth decay is a widespread disease among children and adults in Sonoma County.
- Low income and Latino children are twice as likely to suffer tooth decay. Low income adults are also more likely to suffer tooth decay.
- Improving the oral health of Sonoma County residents will aid in improving their overall health.

Fluoridation

- The CDC has recognized fluoridation of drinking water as one of the ten great public health achievements of the 20th century.
- Fluoridation is a safe, effective, and economical way to improve dental health for the entire community.
- Fluoridation is a public health preventative action similar to immunization.
- Fluoridation strengthens tooth enamel in children and prevents tooth decay in people of all ages.

Public Health Recommendations for Fluoridation

- Fluoride is a naturally occurring mineral. When present in drinking water at optimal levels, fluoride has been shown to prevent tooth decay by strengthening tooth enamel in children so teeth become more resistant to decay. Fluoride has also been shown to reverse newly formed cavities as well as to prevent root caries in adults. The most significant risk for tooth loss in older adults is dental caries, and particularly root caries. Root caries most commonly affect the molar teeth.
- Water fluoridation is the addition of small amounts of fluoride to a water supply. While all drinking water contains some fluoride naturally, water fluoridation adjusts this naturally occurring fluoride level to the optimum level for preventing tooth decay. Fluoride does not change the taste, smell, or appearance of your water.
- Fluoride does not cause ill effects at the doses used for fluoridation of water.
- The CDC has recognized fluoridation of drinking water as one of the ten great public health achievements of the 20th century. A Healthy People 2010 objective is to increase the proportion of the U.S. population served by community water systems with optimally fluoridated water to 75%. Only 3% of the population of Sonoma County receives fluoridated water, in Healdsburg.

- According to the CDC, the annual cost of fluoridation would be approximately $0.50 a year per person in communities with a population of 20,000 or greater. In Sonoma County, the estimated average cost of one filling ($146) would provide fluoridation for a family of four over 50 years.
- Community water fluoridation is a safe, effective, and economical way to improve dental health for the entire community.

References

- American Dental Association, March 2002.
- American Dental Hygienists Association, Dental Characteristics of the Older Adult, 2003.
- The Centers for Disease Control and Prevention, Division of Oral Health, National Center for Chronic Disease Prevention and Health Promotion, 2000.
- The Centers for Disease Control and Prevention, Morbidity and Mortality Weekly Report, April 1999.
- US Department of Health and Human Services, Oral Health, September 2007.

Water Fluoridation: Frequently Asked Questions

Q: Is tooth decay a serious problem in Sonoma County?

A: According to the Sonoma County Smile Survey 2009, about 1 in 6 kindergarteners (16%) and 1 in 6 third graders (17%) had untreated tooth decay. Also, about 2 in 3 Latino kindergartners had tooth decay (65%) as compared to 1 in 3 (32%) of their White counterparts. In fact, Latino children were almost 4 times as likely as white children to need urgent dental treatment. The survey examined the oral health status of children in "Higher Income" schools (where less than 25% of students are eligible for free lunch) as compared to "Lower Income" schools (at least 75% of students eligible for free lunch). Students from lower income schools were more than twice as likely as those from higher income ones to have experienced tooth decay. Approximately 1 in 3 students from "Higher Income" school experienced tooth decay (30.6%) compared with 2 in 3 (67.3%) of students in "Lower Income" schools.

Q: What is fluoride?

A: Fluoride is a naturally occurring mineral present in drinking water. Fluoride is naturally present in all community water systems to some level, but is usually insufficient to help prevent tooth decay. It was the difference in tooth decay between communities with different levels of fluoride naturally present in the water that lead to the understanding of its benefits.

Q: How does fluoride reduce tooth decay?

A: When present in water at optimal levels, fluoride has been shown to prevent tooth decay in people of all ages. It is especially important for children, for whom it makes the teeth more resistant to decay. A major risk for tooth loss in older adults is cavities, especially root caries. Root caries most commonly affect the molar teeth. Fluoride has been shown to undo newly formed cavities and prevent root caries in adults.

Q: What is community water fluoridation and why do we fluoridate water?

A: Community water fluoridation refers to addition of fluoride to a water supply. While all drinking water contains some fluoride, water fluoridation adjusts this naturally occurring fluoride level to the optimum level for preventing tooth decay. The optimum concentration of fluoride in water is 0.7 mg/l. Fluoride does not change the taste, smell, or appearance of the water. It is a safe, effective, and economical way to improve dental health for the entire community. No significant negative health consequences have been identified when fluoride is added at recommended levels.

Q: Do adults, as well as children, benefit from water fluoridation?

A: Yes, water fluoridation provides dental health benefits for both children and adults.

Q: Is there a difference in effectiveness between naturally occurring fluoridated water and water that has fluoride added to it?

A: No. The same fluoride ion is present in naturally occurring fluoride and fluoride drinking water additives. Also, fluoride metabolism is not affected by different chemical compounds nor are they affected by whether fluoride is present naturally or artificially.

Q: Do water filters remove fluoride? Will using a home water filtration system take the fluoride out of my homes' water?

A: Most home point-of-use treatment systems installed at single faucets use activated carbon filtration, which does not remove fluoride. Reverse osmosis point-of-use devices can effectively remove fluoride although the amount may vary given individual circumstances.

Q: Does bottled water contain fluoride?

A: Some bottled waters contain fluoride and some do not. Some water is bottled directly from fluoridated community tap water and resold to consumers. Fluoride can occur naturally in source waters used for bottling or be added. The U.S. Food and Drug Administration does not require bottlers to list the fluoride content in a bottle of water, but does require fluoride additives to be listed. Contact the manufacturer to ask about the fluoride content of a particular brand of bottled water.

Q: What is enamel fluorosis and when does it occur?

A: Enamel fluorosis is a hypo mineralization of the enamel surface of the tooth that develops during tooth formation. It may range from barely noticeable white spots to pitting and staining. It can occur only during tooth development. Only children 8 years old and younger are at risk, as this is the time when permanent teeth are developing under the gums. Severe enamel fluorosis can occur when young children consume excess fluoride, from any source, during critical periods of tooth development.

Q: What if my child has been receiving fluoride drops or tablets?

A: Only children living in non-fluoridated areas should use prescription dietary fluoride supplements between the ages of six months to 16 years of age. When the water is fluoridated, there is no need to continue using fluoride drops or tablets. Please consult with your healthcare provider or dentist before starting or stopping the use of fluoride drops, or other supplements.

Q: Should my family continue brushing with fluoridated toothpaste?

A: Yes. For most people (children over six years of age, adolescents, and adults) brushing at least twice a day with fluoride toothpaste is recommended. Some simple recommendations are advised to reduce the risk of enamel fluorosis among children aged 6 years and younger:

- Supervise brushing to discourage swallowing toothpaste.
- Place only a small pea-size amount of fluoride toothpaste on your child's toothbrush.
- Seek advice from a dentist or other health care professional before introducing fluoride toothpaste to children less than 2 years of age.

Q: What are the guidelines for breast-fed infants?

A: Breastfeeding is the most complete form of nutrition for infants. Breast milk has low concentration of fluoride and does not contribute to enamel fluorosis (a defect in the tooth enamel caused by exposure to high concentrations of fluoride during tooth development).

Q: Is it safe to use fluoridated water to mix infant formula?

A: Yes, you can use fluoridated water for preparing infant formula. However, if your child is exclusively consuming infant formula reconstituted with fluoridated water, there may be an increased chance for mild dental fluorosis. To lessen this chance, parents can use low-fluoride bottled water some of the time to mix infant formula; these bottled waters are labeled as de-ionized, purified, demineralized, or distilled.

Q: What is the effect of fluoridation on people with Chronic Kidney Disease (CKD)?

A: According to the National Kidney Foundation, fluoridation presents no health risks for people with mild renal disease. However, those individuals with end stage renal disease might be at risk for skeletal fluorosis, although there are limited studies addressing this issue. Fluoride concentrations in dialysis machines should follow established guidelines.

Q: Can my pets drink fluoridated water?

A: Yes. Research findings do not support an association between water fluoridation and negative health effects on plants and animals.

Q: What is the effect of water fluoridation on the environment?

A: Scientists have found a lack of evidence to show an association between water fluoridation and a negative impact on people, plants, or animals.

Q: Which health organizations support and endorse water fluoridation?

A: American Dental Association (ADA)
California Dental Association (CDA)
Centers for Disease Control and Prevention (CDC)
American Medical Association (AMA)
American Academy of Pediatrics (AAP)
U.S. Surgeon General
National Institute of Dental & Craniofacial Research (NIDCR)
World Health organization (WHO)

Q: What is the cost effectiveness of water fluoridation?

A: The economic analysis found that for larger communities of more than 20,000 people where it costs about 72 cents (in 1999 dollars) per person per year to fluoridate the water, every $1 invested in this preventive measure yields approximately $38 savings in dental treatment costs. In Sonoma County, the average estimated cost of one filling ($146) would provide fluoridation for a family of four over 50 years.

Q: How can I learn more about water fluoridation?

A: Visit these websites:

Centers for Disease Control and Prevention

American Dental Association

References

1. Sonoma Smiles Survey, 2009 (pdf).

2. Centers for Disease Control and Prevention, Division of Oral Health, National Center for Chronic Disease Prevention and Health Promotion. March 4, 2009.

3. Centers for Disease Control and Prevention. Recommendations for using fluoride to prevent and control dental caries in the Unites States. MMWR Recomm Rep. 2001 Aug 17;50(RR-14):1-42