

# Science Advisory Board

## COUNTY OF SAN DIEGO

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8 September 1999

## SAN DIEGO COUNTY WATER FLUORIDATION SUMMARY REVIEW & RECOMMENDATION

The Science Advisory Board (SAB) has reviewed and evaluated the scientific merits and health benefits of adding fluoride to San Diego County drinking water. The following paragraphs outline the conclusions and recommendation of the SAB for communication to the Chief Administrative Officer for the San Diego County Board of Supervisors.

On 14 April 1999, the SAB heard presentations from Ernest Newbrun, BDS, MS, DMD, PhD, Professor of Oral Biology and Periodontology, University of California School of Dentistry, San Francisco, and from a representative from the San Diego Fluoridation Coalition, which were followed by a discussion with these individuals regarding several issues, including the effectiveness of fluoridation, its safety, and the broader public health aspects of implementing this program in San Diego County. On 9 June 1999, the SAB heard a slide presentation by Dr. David Kennedy, a local dentist and anti-fluoridation advocate, on the possible medical consequences of introducing fluoride into the county's water supply. This presentation was followed by statements from two additional citizens who voiced opposition to the fluoridation proposal. In addition, the SAB received a number of scientific reports and review articles on water fluoridation by both the proponents and opponents of fluoridation to read and discuss. The SAB also obtained the advice of Stephen Barrett, MD a prominent consumer advocate, the recipient of an FDA Commissioner Special Citation Award, consulting editor of the respected *Nutrition Forum Newsletter*, and is the author/coauthor of forty-six books on health topics. Based on expert testimony and subsequent discussions, the Board reached the following conclusions:

### 1. Effectiveness

Water fluoridation has been in place in many communities for over 50 years. In the years since water fluoridation began, there have been dozens of epidemiological studies outlining the effectiveness of this public health measure. The most recent summaries of these studies show that there are 30-60 percent fewer cavities in baby teeth and 15-35 (percent) fewer cavities in adolescents and adults in communities with fluoridated water as compared to those without. These decreases are above and beyond what is achieved by the use of topical fluorides in toothpaste, which also protect against tooth decay when conscientiously and universally used. The effectiveness of water fluoridation is perhaps best exemplified by what happened in several cities in which water fluoridation was stopped, resulting in 30-100 percent increases in dental decay. Therefore, the overwhelming body of scientific evidence shows that water fluoridation is effective in preventing cavities, whereas topical applications are not universally effective.

## **2. Safety**

Fluoride at concentrations used in drinking water (1 milligram per liter – i.e. 1 part per million) is harmless. Fluoride, like iodine, iron and vitamin D, is toxic if ingested at high doses. However, over 50 epidemiological studies have shown no link between the low levels used in fluoridated water and any disease. A few contrary claims have appeared in the literature, and the anti-fluoridation groups to support their arguments that fluoridated water is a health risk vigorously use these. However, these reports of possible health risks have been repeatedly examined by scientists throughout the world and have been found to be groundless. Since water fluoridation has been used by tens of millions of people for over 50 years, any significant health risk would have become obvious when comparisons were made with populations lacking this public health measure. None have appeared. In addition, communities that have natural fluoride up to 10- fold higher than community fluoridation have no more problem than do non-fluoridated communities, except for a slight yellowing of the teeth.

## **3. Arguments Against Water Fluoridation**

A variety of arguments have been made against the use of fluoride in water supplies. The major arguments against its public use are: It is a government/health agency conspiracy; it is harmful; we ingest enough from alternative sources; it infringes on individual rights. As outlined above, the preponderance of scientific evidence shows that water fluoridation is both safe and effective. Furthermore, no governmental agency or professional organization would recommend fluoridation unless it believed that a significant public health benefit would result. The SAB has investigated the claim made to the SAB by Dr. David Kennedy that only 2% of European water supplies is fluoridated because of safety concerns. Actually about two-third of Ireland's water supply is fluoridated, and about 30 million Eastern Europeans had their water supply fluoridated as of 1989. It is not a question of safety but rather one of political concern about the feasibility of fluoridating a multiplicity of fragmented water sources that has inhibited more widespread use of water fluoridation in Europe. Most of Europe fluoridates table salt as a practical alternative. There are significant amounts of fluoride in natural sources, processed food, and of course in fluoridated toothpaste. However, numerous studies have shown that these sources are not used with universal efficacy and are therefore not sufficient to prevent tooth decay as efficiently or effectively as fluoride supplementation through the water supply. Finally, the argument about infringement on individual rights must be viewed in the context of all large public health issues. Similar arguments have been made regarding milk pasteurization, immunization against diphtheria/smallpox and against polio. However, the health benefits for the population far outweigh the objections of a vocal minority. In fact, the Center for Disease Control and Prevention has listed water fluoridation as one of the 10 greatest community health achievements of the century. Finally, the anti-fluoridation groups have amassed a great deal of literature that they claim shows that fluoridation is ineffective and unsafe. However, countless reviews of this literature by competent scientific and medical groups over many years have consistently concluded that water fluoridation is both effective and safe. The SAB concurs in this determination.

## **4. Recommendation**

All of the available data show that water fluoridation is a safe and effective way of preventing dental cavities. San Diego is currently the largest region in the US without this public health

measure. The SAB strongly recommends that San Diego County implements the fluoridation of its water supply.

Reviewed, adopted, and signed on behalf of the Science Advisory Board, County of San Diego, State of California, this 8<sup>th</sup> day of September 1999:

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Elie A. Shneour, Ph.D., SAB Chairman

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David Schubert, Ph.D., SAB Member

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