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**Office of the Dean**

School of Dentistry, 304  
P.O. Box 1881  
Milwaukee, Wisconsin 53201-1881

F 414.288.3586

October 14, 2016

Alderman James Bohl, Jr.  
Chair, Water Quality Task Force  
And Members of the City of Milwaukee, Water Quality Task Force  
200 East Wells Street  
Milwaukee, Wisconsin 53202

Dear Alderman Bohl and Members of the City of Milwaukee's Water Quality Task Force:

On behalf of the Marquette University School of Dentistry, I am writing to you in your capacity as Chairman and Members of the City of Milwaukee's Water Quality Task Force.

In light of revelations regarding the lead in the pipes in Flint, Michigan, I understand that the City of Milwaukee, like other communities around the United States, is assessing the effects of lead pipes, lead in the water, and the potential negative impact on its citizens. It has come to my attention that the Water Quality Task Force has also been provided information regarding the fluoridation levels in Milwaukee's water and background materials regarding the use of fluoride. Lead in the water is a serious health issue and should be addressed, especially as it relates to young children. However, I am concerned that adding fluoride to the City of Milwaukee's water as a public health measure is being characterized as negatively as lead, when, in fact, community water fluoridation has been hailed by the United States Centers for Disease Control (CDC) as one of the 10 great public health achievements of the 20<sup>th</sup> Century. In the appropriate levels, community water fluoridation has been shown to prevent and reduce dental caries, and, as a result, saving families potential pain and suffering and the United States health care system money.

According to the CDC, community water fluoridation is recommended by nearly all public health, medical, and dental organizations and is recommended by the American Dental Association, American Academy of Pediatrics, US Public Health Service, and World Health Organization.

In recent years, the CDC recommended that the community fluoridation level be 0.7 ppm and according to the information provided to the Task Force, the fluoridation levels in Milwaukee are below this level. If anything, the Water Quality Task Force should not be discussing the elimination of fluoride in Milwaukee's water but working to restore the fluoridation level to the CDC recommended level of 0.7 ppm.

In 2012, when the City of Milwaukee Common Council held a public hearing regarding the elimination of community water fluoridation, Dr. Brian Hodgson testified against this proposal on behalf of the Marquette University School of Dentistry. I have attached Dr. Hodgson's 2012 testimony which outlined the benefits of community fluoridation. These benefits remain as valid today as they were then

On behalf of the Marquette University School of Dentistry, I would respectfully request that the Water Quality Task Force focus its efforts on concerns with lead in Milwaukee's water, and in the event the

Task Force feels compelled to address fluoridation, urge Members of the Task Force to push for the restoration of fluoride levels at the CDC recommended level of 0.7 ppm.

In the event that you have any further questions please let me know. I can be emailed at [william.lobb@marquette.edu](mailto:william.lobb@marquette.edu). Thank you for your consideration.

Sincerely,

A handwritten signature in black ink that reads "William K. Lobb". The signature is written in a cursive style with a large, prominent "W" and "L".

William K. Lobb, DDS, MS, MPH  
Dean and Professor

Attachment

cc: Rana Altenburg, Vice President for Public Affairs, Marquette University

## **TESTIMONY DELIVERED**

Testimony of Brian D. Hodgson, DDS  
Associate Professor, Program in Pediatric Dentistry at the Marquette University School of Dentistry  
Before the Milwaukee Common Council Steering and Rules Committee  
May 31, 2012

Good afternoon Council President and Chairman Hines and Members of the Committee. My name is Dr. Brian Hodgson and I am a board certified pediatric dentist, an Associate Professor in the Pediatric Dental Program at the Marquette University School of Dentistry, and immediate past president of the Wisconsin Society of Pediatric Dentists. I received my dental degree from Marquette University in 1987 and my certificate in pediatric dentistry from Children's Hospital of Wisconsin in 1993. I have been a practicing dentist for almost 25 years, and a pediatric specialist working in the Milwaukee area for almost 20 years. In addition, I am currently a Captain in the Dental Corps of the United States Navy and oversee all reserve dentists in Florida, Georgia, South Carolina and Puerto Rico. I have served in the United States Navy for over 26 years on both active duty and in the Reserves, most recently being recalled to active duty in 2009 to support our nation's efforts in Iraq. While in Iraq, I served as the Officer in Charge of the dental clinic located on Al Asad Air base. Since I have stated my military service, I must inform you that the following opinions are my own and do not reflect any official position of the United States Government, the Department of Defense, or the Department of the Navy. Thank you for allowing me the opportunity to testify before all of you here today on the issue of fluoridation in Milwaukee's water system and the 15 communities served by the Milwaukee Water Works.

I have provided you a copy of my written testimony but I will try to summarize my remarks.

I am here today on behalf of Dean William Lobb to represent the Marquette University School of Dentistry, which in 2010-2011 provided care to nearly 27,000 patients in nearly 97,000 patient visits and serves approximately 9,700 dental Medicaid patients between Marquette School of Dentistry operated clinics and affiliated clinical sites around Wisconsin. Marquette's School of Dentistry is one of the largest dental Medicaid providers in the State serving nearly 5,000 Medicaid patients in our Milwaukee

Clinics alone. We are often the provider of last resort. I know I do not have to tell you the critical role the Marquette University School of Dentistry plays in providing care to the underserved in this community and around the State of Wisconsin.

In addition to spending time at the School's Main Clinic, I also provide pediatric dental care one day a week at Marquette's Community Dental Clinic North in the City of Milwaukee, and one day a week in a private practice in Lake Geneva. As you may imagine, the children I see, and have seen during most of my dental career are in great need of care and generally are from poor backgrounds.

On behalf of the Marquette University School of Dentistry, I urge you to continue the City of Milwaukee's nearly 60 year practice of adding fluoride to its water to help prevent tooth decay and respectfully oppose the resolutions before you today. We believe eliminating fluoride from the City of Milwaukee's water as well as the water in the surrounding communities which purchase water from Milwaukee would be a major setback to the public's health.

Well-designed epidemiological studies that examined the relationship between water fluoridation and chronic diseases found no evidence to suggest that drinking fluoridated water (in the optimal range) is harmful to health of human beings. Over 60 years of research shows that water fluoridation is safe and effective in preventing dental caries.

The use of fluoride to help prevent tooth decay is based upon the chemical changes that occur at the surface of the tooth on a microscopic level. Basically, there are three types of calcium-phosphate salts that make up the hard structures of the teeth. The basic mineral salt is called apatite, and the three forms are carbonated apatite, hydroxyapatite, and hydroxyfluorapatite (or fluorapatite). In acidic solutions, carbonated apatite starts to dissolve at a pH of approximately 6.5, hydroxyapatite dissolves at approximately 5.5, and hydroxyfluorapatite dissolves at approximately 4.8. Remembering that each change of 1 on the pH scale means a factor of 10, it takes approximately 10 times more acid in the plaque to dissolve hydroxyfluorapatite than hydroxyapatite, and almost 100 times more acid than to dissolve carbonated apatite.

The majority of the fluoride is incorporated into the outermost surface of the tooth by mineral substitution. When fluoride is in the saliva and plaque, the less stable minerals (carbonated apatite and

hydroxyapatite) tend to dissolve out and are replaced by the most stable mineral, hydroxyfluorapatite. This is the importance of water fluoridation. Water fluoridation maintains higher fluoride levels in the saliva and plaque, which makes the teeth more resistant to the acid attack from biologically active plaque. However, if the plaque pH drops below the point where hydroxyfluorapatite dissolves (approximately 4.8), then even the hydroxyfluorapatite will dissolve and the patient will develop a cavity. In other words, without the continual presence of fluoride the pH level drops and the patient is more likely to develop a cavity. Water fluoridation is the most effective way to maintain the continual presence of fluoride in the saliva and plaque.

The resolutions before you suggests that the CDC believes in the benefits of fluoride surface application and not from ingestion. This is not the case as there are benefits to both as acknowledged by the CDC.

Again, on behalf of Dean Lobb and the Marquette University School of Dentistry it would be a terrible mistake to eliminate fluoride from the City of Milwaukee water system. I'm not the first to note that the benefits of fluoride in drinking water to reduce tooth decay has been hailed as one of the 10 great public health achievements of the 20<sup>th</sup> Century by the Centers for Disease Control and Prevention.

Again, thank you for allowing me the opportunity to testify. I would be happy to answer any questions at this time.