

Thank you for the opportunity to speak today. My name is Dr. David Holdsworth; I have a Ph.D. in Medical Biophysics and I am the Director of the Dr. Sandy Kirkley Centre for Musculoskeletal Health, part of the Lawson Health Research Institute; I am also a professor in Surgery at the University of Western Ontario. I have published well over 100 peer-reviewed papers during the past 20 years, so I have a very clear understanding of scientific methods in medical research. I want to start by saying that I have lived here in London for over 20 years; I drink the water and my family drinks the water. This is not just an academic issue for me; it is a personal matter as well.

Our research centre is focused on bone and joint diseases, so I will address some of the issues that have come up related to municipal water fluoridation and bone disorders.

My main concern is that you have probably reviewed some controversial and selective data linking community water fluoridation and bone problems, such as fracture risk and bone cancer. To investigate these issues, a student at our centre prepared a report, based on a review of the medical literature, the recent Health Canada report, and the report from the World Health Organization entitled "Fluoride in drinking water" (2006).

With respect to bone fracture, the literature is complex and some of the results are contradictory. Part of the difficulty is that many studies involve fluoride exposure at levels much greater than would be provided by municipal water. Many of these older studies come from other areas of the world, where fluoride is present in ground water at concentrations that are 10 to 20 times higher than in our municipal supply; these results simply don't apply to London's situation. I agree with Health Canada's overall conclusion in 2011 that exposure to fluoride concentrations at less than 1.5 mg/L does not significantly increase the risk of fractures or increase the risk of skeletal fluorosis

With respect to bone cancer, the weight of scientific evidence that we reviewed does not support a link between fluoride and cancer. One of the most important findings in this area was just released last year, a study entitled "An assessment of bone fluoride and osteosarcoma," by Kim et al. This study in nearly 200 patients found that "no significant association between bone fluoride levels and osteosarcoma risk was detected." This study has (predictably) been attacked by anti-fluoride groups, but I have reviewed the manuscript carefully, and I see no reason to question these results. In my opinion, the study methodology is sound, it comes from a respected university (Harvard), and is published in a peer-reviewed journal that is ranked second out of 77 in its field.

Like most modern issues, you can find a wide range of viewpoints on water fluoridation. It is difficult to assess the quality of information that is available on the internet; but I believe that you can trust the World Health Organization and the Center for Disease Control, both of which are enthusiastic in their support for fluoridation; the CDC calls it "one out of the ten great public health achievements of the 20th century" and the WHO believes access to fluoride is a basic human right. In 2008 in the US, over 70% of the population on public water systems had access to optimally fluoridated water, a substantial increase from the 2006 figure.

Anti-fluoride advocates have bombarded you with selective information that seems to make a compelling case; I'm not surprised that you are taking this issue seriously. But does it really make sense to you that respected national and international agencies of health care professionals, who have access to all of the literature, have reached a different conclusion due to incompetence or malfeasance? Does it make sense that there is a world-wide conspiracy, and that our own city staff are somehow involved? Does it make sense that scientists, engineers and doctors at our medical school are somehow involved in this conspiracy? What would be the purpose? What would be the benefit?

I have a much simpler interpretation for you. There is no world-wide fluoride conspiracy, there is no objective evidence of significant health risks due to community water fluoridation, fluoride provides important and cost-effective dental protection for London families. I urge you to take the valuable advice of national and international agencies, and responsible doctors, engineers and scientists who recommend community water fluoridation as it is currently provided in London.

Holdsworth, J