

COMMENTARY

MICHAEL KOSNETT

*Division of Clinical Pharmacology and Toxicology, Department of Medicine,
University of Colorado Denver, Aurora, CO 80045, USA.*

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I HAVE ENJOYED THIS CONFERENCE; there has been a lot of good information presented. I hope it doesn't come as a surprise to you that this issue is not on the radar screen of my colleagues in the medical and public health community. There is an enormous amount of effort to combat lead poisoning in humans in the United States. Virtually every state in the country has a childhood lead poisoning prevention program; 35 states monitor blood lead concentrations and follow up on them through lead registries; and many states have full time occupational health lead poisoning prevention programs. There are hundreds of people doing research on the effects of lead intoxication; and the scientific literature on lead intoxication is vast, numbering tens of thousands of articles. Despite all this, I don't think there's a single study been done on blood lead levels and lead exposure in sportsmen who consume game animals in the United States. There have been some studies on native communities in Canada and people in Greenland, and they have raised some concern. The key take home message that I have learned from this Conference is to connect this concern about the human health aspects of consuming lead in game meat with the need for human health studies. I am a member of the Advisory Committee on Childhood Lead Poisoning Prevention for the Centers for Disease Control. I intend to bring this

up at the CDC to promote funding of research and population surveys to look into this issue. I think it will be very helpful to focus studies on children and women of reproductive age in hunters' families rather than only on hunters because there may be more impetus to do something about this source of lead exposure if we find that this is a public health problem and document the magnitude of the problem.

Another issue that I was not really aware of, that really opened my eyes, was the vast amount of lead that is being discharged onto public and private lands through hunting. We heard from one of the talks that about 72,600 tons per year of lead are being emitted at 9,000 outdoor non-military target ranges in the United States. We heard about Mourning Dove hunting fields where tens of thousands of rounds of lead ammunition are discharged each season, year after year. There's a need to involve the Environmental Protection Agency and other environmental groups to investigate the impact of loading the environment with lead. This is an issue that has just not been looked at.

Finally, I want to say something about the issue of perception. It floored me to hear papers about wildlife, particularly Bald Eagles and condors, that had

what I would consider to be lead poisoning with median lead levels of 40 µg/dL during the hunting season. The Bald Eagle is a very symbolic bird; it is the symbol of our country. A lot of powerful publicity could be made by pointing out to the media that our national symbol is being poisoned by lead. This message would concern the general public in a way that poisoning of other wildlife, which is not insignificant, maybe would not.

In closing, there is a real opportunity now to make progress with this issue. There is a lot of attention given to being “green.” If you bought coffee downstairs, you saw they are selling it in “green, earth-friendly” mugs. Everywhere you go now, people and businesses want to be “green.” Well, lead is not a “green” material—this is a toxic material that has a deleterious effect on the environment and human health. If we, as a group, can let people know that lead ammunition is a hazardous material for which there are substitutes, then we can benefit from the environmental shift to prefer safer products.

Some of you are concerned about the difficulties involved and resistance to mandatory bans. Bear in mind that there are now statewide bans on second-hand smoke; restrictions on smoking in restaurants and public places. People thought that would never happen; that people would be incredibly resistant. Twenty-five percent of the American public smoke cigarettes, and in California they went and banned

smoking in restaurants and public places entirely. Colorado now has a complete ban. There was a lot of resistance at first, but it went through, and what we are seeing now is that it is really having an effect, not only decreasing second-hand smoke, but also decreasing the numbers of young people taking up smoking. If something as entrenched as smoking can be changed, then it puts the issue of lead ammunition in a different light. I look forward to working with many of you and my colleagues in the medical community to join arms to work on this issue.

Biography.—**Michael J. Kosnett, M.D., M.P.H.**, is Associate Clinical Professor in the Division of Clinical Pharmacology and Toxicology, Department of Medicine, University of Colorado Denver. He is a medical toxicologist specializing in occupational and environmental toxicology with clinical and research interest in heavy metals. Dr. Kosnett is a current member of the Advisory Committee on Childhood Lead Poisoning Prevention of the US Centers for Disease Control. He recently served as President of the American College of Medical Toxicology, and past assignments include the Committee on Toxicology, National Research Council, World Health Organization, US State Department, US Environmental Protection Agency, and others.