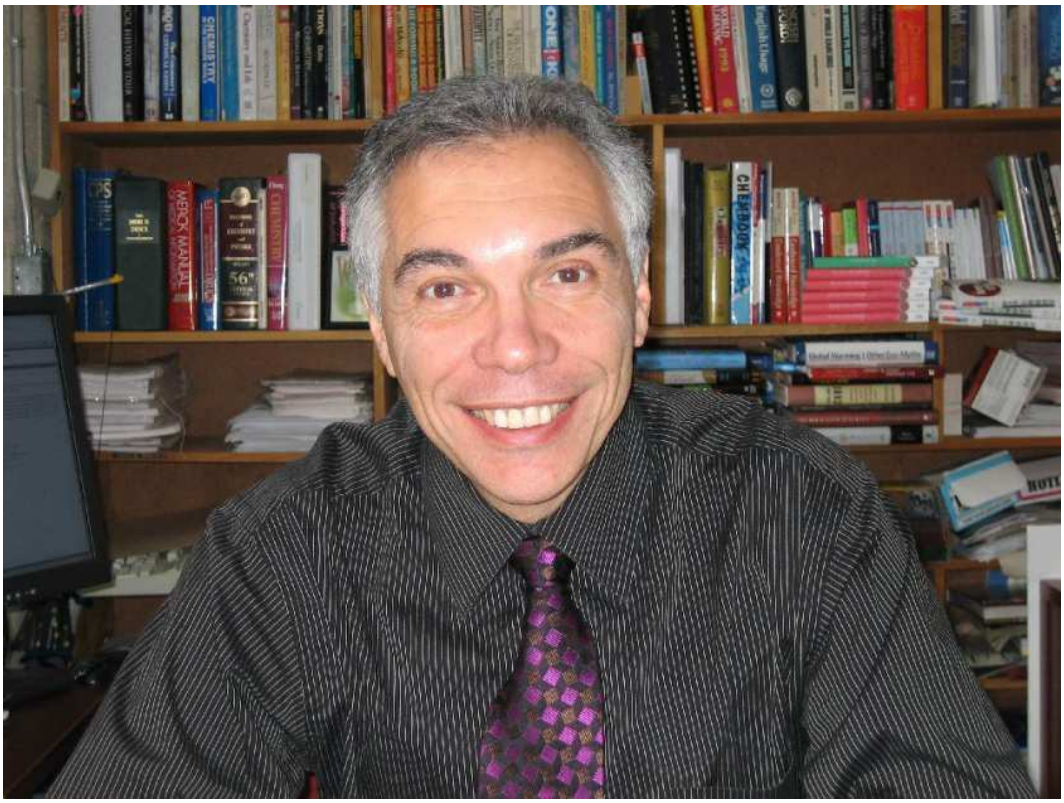
MONTREAL GAZETTE



The Right Chemistry: 'Is it safe to kiss your golf balls?'

JOE SCHWARCZ, SPECIAL TO THE MONTREAL GAZETTE
More from Joe Schwarcz, Special to the Montreal Gazette

Published on: July 17, 2015 | Last Updated: July 17, 2015 11:02 AM EDT

Dr. Joe Schwarcz, columnist, The Right Chemistry. JOE SCHWARCZ / MONTREAL GAZETTE

It seems like yesterday, but 35 years have rocketed by since I faced my first question from a listener on CJAD radio. I was excited to be given a chance to enlighten the public about chemistry and figured I would be asked questions about how Aspirin is produced, how baking soda works, how the birth-control pill was developed or the difference between natural and synthetic vitamin C. To me, this was chemistry. But the first question I had to deal with took a different tack.

“Is it safe to kiss your golf balls?” was the confounding query. I didn’t quite know what to make of this, but I soon learned that some golfers have the habit of giving their balls a friendly peck for good luck before whacking them. The caller’s concern was that the balls might harbour some pesticide residue that could have an effect on his health. I offered the opinion that based upon our knowledge of the toxicity of pesticides from animal studies, surveys of the health of golfers, determinations of the amount of dislodgeable pesticides from treated turf, and the brief exposure involved in romancing a golf ball, any significant effect was unlikely. Then I went on to qualify my remarks with the adage that only death and taxes were certain.

Since those beginnings, I estimate I have dealt with more than 10,000 questions on the air ranging from ways to remove rust stains from toilet bowls to why opening a can of coffee beans triggers the smell of cooked turkey (no idea). But the largest category of questions has mirrored the golf ball query, focusing on risk. Over the years, the list of concerns has expanded way beyond pesticide residues on golf courses to fluorinated compounds, nanoparticles, sodium lauryl sulphate, caramel, flame retardants,

acrylamide, formaldehyde, dioxane, dioxin, diesel fumes, benzene, trihalomethanes, mercury, parabens, antimony, gluten, cellphones, phthalates, bisphenol A, GMOs, lead, driveway sealants, hand dryers, fabric softeners, processed vegetable oils, carrageenan and countless others.

My answers to questions about these issues haven't changed a whole lot, emphasizing the difference between hazard and risk. Hazard is an innate property of a substance to cause harm, while risk is a measure of the potential that it actually could cause harm after taking into account type and extent of exposure while factoring in personal liabilities such as age, gender and medical history. With time, I have become more and more aware of the challenges of coming to a conclusion about risk and how it basically comes down to making educated guesses.

A couple of weeks ago, on a special show celebrating 35 years of being on the air, I was asked whether I thought the public was better informed about science now then when I started. More informed, perhaps, but not necessarily better informed. When I first dipped a toe into the turbulent waters of science communication there were no smart phones, there was no Google, no email, no Food Network, no Discovery Channel. Now we have all these, plus Dr. Oz, Joe Mercola, Gwyneth Paltrow, Jim Carey and Suzanne Somers dispensing their version of scientific wisdom. Electronic news letters spew out tantalizing and seductive headlines ad nauseam: "The Antioxidant That's 6000X More Powerful Than Vitamin C," "Alzheimer's Vanished In Days After Ohio Woman Ate This" (Of course it will cost money to find out what "this" is).

Pseudoexperts like the Food Babe offer categorical advice about what food additives, cosmetic ingredients, household chemicals, genetically modified organisms or pesticides to avoid based on anecdote, emotion and a selective view of scientific literature. Of course, the Internet has a positive side as well. Proper scientific literature is just a few keystrokes away and there are outstanding websites like Science-Based Medicine, NHS Choices, Sense About Science and Quackwatch. Unfortunately, these are not as popular as absurd websites like NaturalNews that serve up an assortment of ludicrous theories and offer simple solutions to complex problems. Unfortunately, it seems efforts to improve public understanding of science is being trumped by the tsunami of Internet pseudoscience.

And talking about hazard and risk, you may have noticed Novak Djokovic taste a few blades of grass plucked from the Wimbledon turf on his way to the tennis championship — parts of which are treated with the herbicide glyphosate (Roundup). A hazard may have been present, but there was no risk.

joe.schwarcz@mcgill.ca

Joe Schwarcz is director of McGill University's Office for Science & Society (mcgill.ca/oss). He hosts The Dr. Joe Show on CJAD Radio 800 AM every Sunday from 3 to 4 p.m.