INTERVIEW

Dr. Taylor Wallace, PhD

Taylor C. Wallace, PhD, CFS, FACN is a Principal Consultant at the Think Healthy Group and a Professor in the Department of Nutrition and Food Studies at George Mason University. Prior to founding the Think Healthy Group, Dr. Wallace served as the Senior Director of Science Policy and Government Relations at the National Osteoporosis Foundation and previously in senior leadership roles at the Council for Responsible Nutrition and the North American Branch of the International Life Sciences Institute. He has extensive experience in developing and implementing comprehensive and evidence-based science, policy and legislative programs in the fields of nutrition and food science.

As a food scientist by training, you must be intimately familiar with the ingredients that go into our food and why they are in there. You recently went on the Dr. Oz show to explain a bit about the use and purpose of sugar alcohols***. Are there any other ingredients you get asked about frequently and could enlighten us on their purpose?***

I get asked all sorts of questions regarding food additives. Are they safe?... Do they cause cancer?... Consumers have a negative connotation about food additives because their names are long and scientific, making it hard to decipher why they are in our food. The Dr. Oz Show recently asked me why fast food companies would use an additive called guar gum in breakfast egg sandwiches. It's to keep the eggs from crumbling and falling apart onto your dress clothes. Ever had a piece of an egg sandwich break off and stain your dress shirt before that early Monday morning meeting with the boss who's only in town once a quarter? Food companies know that you are less likely to repurchase that product if you have a bad "on-the-go" experience. Keep in mind every additive you put in a food has a substantial cost associated with it. Food companies don't just add them to food unless there is a quality or safety purpose. Don't be afraid of food additives. We've used them safely for decades. They help protect you from many foodborne illnesses and in many cases help keep the food shelf stable. Imagine purchasing ice cream that melts before you get home from the grocery store. This problem is easily solved with a little food science!

You have done research in the, somewhat surprisingly, controversial area examining the relationship between calcium, vitamin D, and the risk of bone fractures. Can you walk us through some of the difficulties of doing this type of research and some of your findings?
In my mind, there is no controversy. It's common sense. Calcium is the dominant mineral in the bone. When you don't get enough calcium from the diet your body begins to pull it from the bone to help maintain normal physiological functions such as muscle contractions. This causes the bones to become weak and fragile, a condition we know as osteoporosis. Vitamin D helps your body absorb calcium and put it into your bones. What most people don't realize is that many teenagers and adults of all ages don't get enough calcium and vitamin D. Therefore, the 2020 Dietary Guidelines for Americans recently re-established both calcium and vitamin D as shortfall nutrients for which Americans should strive to achieve higher intakes.

Since you ethically cannot deprive anyone of an essential nutrient like calcium or vitamin D it's difficult to show effects in a short-term clinical trial. Every person has a different baseline dietary intake of both essential nutrients. The Women's Health Initiative is famous for showing null effects of calcium and vitamin D supplements on fractures. It wasn't until after the study that researchers found that the women enrolled in the study had about 1100 mg intake of calcium at baseline, which is just slightly under recommended intake. You wouldn't expect to see huge results in this group. However, when you look at the women who had a baseline intake of 500-600 mg/day calcium intake you see rather large preventative effects on total fractures and hip fractures.

A while back there were headlines floating around warning us about how supplementing with calcium or calcium + vitamin D could increase your risk of cardiovascular disease. Is there any validity to these claims?
No. Nutrition scientists are sometimes like plastic surgeons. There are a few in the pack that advertise heavily in the media and then give crooked nose jobs. The studies showing an increased risk are very poor quality and in many cases, are cherry picked. Calcium supplements are completely safe and do not have beneficial or negative effects on the cardiovascular system.

You recently published a textbook considering the supplement regulations in the United States. Was there anything that surprised you while doing research for it or uncommon information you found that customers should know?
Many people think that dietary supplements are not regulated, which is not the case. They are regulated by the Dietary Supplement Health and Education Act (DSHEA) of 1994 as a category of food and thus do not require premarket approval like all drugs in the United States. What is a flaw in the regulation is that the burden of proof lies on the U.S. Food and Drug Administration (FDA) to first prove a supplement is harmful before they can legally take a product off the U.S. market. It took years for FDA to remove both Ephedra and DMAA (the main ingredient in the popular workout supplement Jack3d) from the market. I do not believe dietary supplements should be regulated like drugs but there is room for a DSHEA 2.0. I just published an article outlining my thoughts on ***how dietary supplements should be regulated***.

In another of your textbooks, you discuss adverse event reporting for dietary supplements. What qualifies as an "adverse event", how does a customer report this, and what ultimately happens to that report?
Adverse events are health-related events, such as an allergic reaction, that occur following the use of a product, and may or may not be associated with that product. Reporting of adverse events is required for certain FDA-regulated products, including drugs, vaccines and other biologics, medical devices, and most recently, dietary supplements and over-the-counter medicines. As a category of food, the regulation of

dietary supplements did not initially include mandatory adverse event reporting. With the enactment of the Dietary Supplement and Nonprescription Drug Consumer Protection Act in 2006, manufacturers, packers, and distributors of dietary supplements in the United States are now required to report to FDA all serious adverse effects associated with the use of these supplements. The law defines serious adverse events as an adverse event that "results in death; a life- threatening experience; inpatient hospitalization; a persistent or significant disability or incapacity; or a congenital anomaly or birth defect; or requires, based on reasonable medical judgment, a medical or surgical intervention to prevent an outcome described." Each dietary supplement label must include the contact information (the domestic address or phone number) for the supplement's manufacturer, packer, or distributor—referred to as the "responsible person" who is charged with reporting serious adverse events to FDA. The responsible person must submit a serious adverse event to FDA no later than 15 business days after the report is received.

Anthocyanins were what you did your Ph.D. thesis work in. What in the world is an anthocyanin and what do they do for me?

Ahhh… my favorite subject! Anthocyanins are the orange-red to violet-blue colors in many berries, vegetables, and grains. They're what makes blueberries a superfood! Plants produce anthocyanins as a protective mechanism against environmental stressors, such as ultraviolet light, cold temperatures, and drought. This production of anthocyanins in roots, stems, and especially leaf tissues is believed to provide resistance against these environmental hazards. Our new research shows that a high intake anthocyanins can help lower your bad cholesterol, especially in those who are overweight and/or have hyperlipidemia. Consumption of about 35 mg per day or just 1 ½ cups of blueberries seems to be the level at which we see a beneficial effect on the vascular system. ◆

His academic research interests are in nutritional interventions (micronutrient and dietary bioactive components) to promote health and prevent the onset of chronic disease. In his free time, he manages and operates a large food and nutrition blog (www.DrTaylorWallace.com) that provides science-based nutrition, food safety, and food technology information to the public and consumer media. He is a fellow of the American College of Nutrition (ACN), the 2015 recipient of the Charles A. Regus Award, given by the ACN for original research in the field of nutrition, and the Deputy Editor of the Journal of the American College of Nutrition. Dr. Wallace is an editor of four academic textbooks and has authored over 30 peer-reviewed manuscripts and book chapters.

Web: www.drtaylorwallace.com Twitter Facebook LinkedIn