Back Talk

This Month:

Based in Gig Harbor, WA, Dr. Jeffrey Bland has been an internationally recognized leader in the nutritional medicine field for more than 25 years. He currently serves as the chief science officer for Metagenics, a nutrigenomics and lifestyle medicine company focused on reversing chronic illness and improving health. In addition, he is the president of Metagenics' wholly-owned subsidiary, MetaProteomics Nutrigenomics Research Center, employing more than 40 scientists and physicians. He has been the principal author of over 100 peer-reviewed research papers on nutritional biochemistry; authored four books on nutrition and health for the general public, and six books for health professionals; and educated more than 100,000 health care professionals in seminars and lectures.

This year, Bland received the Linus Pauling Functional Medicine Lifetime Achievement Award (The Institute for Functional Medicine).

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Question: You have discussed the end of the use of the term "disease." What is your reasoning for that?

Answer: Disease is a "place holder" for a condition that a person has that relates to a specific alteration in their physiology that is unique to the individual. There are no two cases of a specific "disease" that are the same. The past decade's progress in medicinal research has resulted in the understanding of the origin of many diseases, and the future of medicine is treating the cause of the individual patient's problem with personalized treatment and not just the "disease" symptoms. As a consequence, the concept of disease is less important than knowing the individual's cause of their physiological problem and treating the cause rather than the effect.

Question: What is the most up-to-date information learned from molecular genetics?

Answer: The Human Genome Project didn't tell us when a person will get sick or with what disease, but rather has told us the unique ways that a person's genetic heritage influences their response to the environment including food, nutrients, chemicals, stress, exercise and lifestyle factors. This has opened the era of nutrigenomics, which will match an individual's nutritional intake with their genetically determined needs.

Question: What is the distinction between "disease" and the environmental impact on genes?

Answer: "Disease" is the term used for describing the outcome of a specific individual response to the effect of their genetically related cellular response to their environment. Upon specific environmental exposures, such as a poor quality diet, some people might get cancer while others get heart disease depending upon their individual genetic uniqueness. This is an application of the concept of "genetetrophic disease" proposed by Dr. Roger Williams from the University of Texas in 1949.

Question: You have discussed a modified environment targeted for a person's genes. Aren't there healthy habits generally good for everyone? How much can targeted treatments help?

Answer: In general, history tells us much about the diet and lifestyle patterns that are associated with getting the most out of our genes. Cultures that have a history of longevity have certain characteristics that they share such as eating less, exercising more, eating less animal products and more vegetables, managing stress and enjoying life, modest consumption of alcohol, such as wine and beer, and not being exposed to harmful drugs and chemicals. These concepts have led to the development of the field of toxigenomics, which is a term that relates to the unique ability that a person has to detoxify foreign chemicals.

Each person has their own set of detoxifying enzymes in their body that are controlled by their genes. It has been found that specific phytonutrients can influence the activity of the detoxifying enzymes in the body and these effects are related to the genetic characteristics of the individual. Cruciferous vegetables including broccoli, cabbage and Brussels sprouts contain a family of phytonutrients that support detoxification of foreign chemicals called glucosinolates. People with specific needs to improve their detoxification process are able to improve their ability to eliminate toxins through the use of glucosinolate-containing foods and supplements. Other foods that have been shown to improve detoxification include green tea with the phytochemical ECGC, soy with the phytochemical isoflavones and grape skins with the phytochemical resveratrol. The other major change that is occurring is the development of various laboratory tests to specifically identify the genetically determined detoxification potential of the individual to determine how to personalize the diet and nutritional supplement support program.

Question: What do you see as the future of medicine and the incorporation of nutrigenomics?

Answer: Medicine of the future will be patient-centered, personalized and focused more on improving function throughout the whole of a 100-year-plus life expectancy, and better balanced with the end stage treatment of disease than the medicine of today that overemphasizes the use of high technology to treat disease.