

News Release



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Medical School Researcher's New Book Proposes a Science-Based Diet for Better Health, Longer Life

WINSTON-SALEM, N.C. – Wake Forest University School of Medicine biochemist and nutrition researcher Floyd H. “Ski” Chilton, Ph.D., has authored *The Gene Smart™ Diet*, published this month, outlining extensive measures to avert the negative effects of chronic, overactive inflammation and possibly accelerated aging.

In this scientifically based and referenced “diet” book, Chilton explains how the body’s “adaptive stress response,” which may have helped to keep our hunter-gatherer ancestors alive, has been turned off and our immune-inflammatory response turned on by modern-day diets and lifestyles, to the potentially extreme detriment of our bodies and our quality of life.

[Chilton](#), professor of physiology and pharmacology at the [School of Medicine](#) who has authored or co-authored more than 115 scientific articles and book chapters and two previous books on inflammation, cites his own research and more than three dozen studies by other scientists in *The Gene Smart Diet*.

Chilton writes that basic science research clearly suggests that “changes in our food supply have resulted in conditions diametrically opposed to the adaptive stress response so favorable to our bodies. Each one of the factors suppressing this mechanism poses a significant threat to our health. Taken together, they confront us with what I refer to as ‘a perfect storm’ of factors, working synergistically to make the vast majority of us overweight and desperately ill.”

In an interview, Chilton said, “This information (in the book) is critically important for people to understand. We’re not talking about the rush to get in shape to wear a bikini at the beach. We’re talking about wellness, disease prevention and enjoying longer, more active lives.

“As we listen to the discussion in Washington about health care reform, there’s a lot of talk about prevention and improving health in general. Awareness of biological processes like those discussed in this book is fundamental to better public health.”

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Chilton's book is based on the premise that the "expression" of the body's 25,000 to 30,000 functional genes – in the form of proteins that control most body functions – regulates the body's stress response and immune system. Because of the feast-and-famine lifestyles of our early ancestors, Chilton explains, the human body developed into an elegant system that is able to take in large amounts of calories and store the excess as fat, which can be converted to energy during lean periods. The fat also triggers an immune response that, in our ancestors, could help fight off infection and disease.

Today, however, the lean periods for most Americans are virtually nonexistent, and diets rife with refined sugar, high-fructose corn syrup and saturated and omega-6 fats, Chilton says, contribute to a growing epidemic of obesity and poor nutrition in developed countries such as the U.S.

Obesity disease, he explains, causes the immune system to kick into overdrive, leading to a chronic inflammatory state. "Inflammation," Chilton writes, "is ... a factor in some of our most terrible afflictions, including heart disease, asthma, arthritis, diabetes, digestive and skin disorders, as well as certain kinds of cancer. In fact, scientists believe that even this extensive laundry list is just the tip of the iceberg."

Regarding aging, Chilton writes, "Most of what we consider to be biomarkers of aging are really the biomarkers of inflammation – or vice versa.

"This also explains why the inflammatory 'diseases of aging' – diabetes, obesity, heart disease, arthritis, cancer – aren't restricted to the aging population. ... In fact, one of the most disturbing trends in inflammation epidemiology is watching these diseases show up earlier and earlier, in younger and younger people."

Twenty-first century diets, he says, not only contribute to obesity and its inflammatory response, but also tend to exclude the foods, nutrients and "bioactive" compounds that could harness the beneficial effects of the adaptive stress response that served our ancestors so well.

Calorie restriction (CR) is one environmental factor that is thought to trigger the adaptive stress response. CR has been shown to extend longevity in research animals, and limited human observation has indicated an improvement in whole body inflammation and DNA damage.

Severe calorie restriction is unrealistic and potentially unsafe, Chilton writes, but it is not even necessary to invoke the beneficial adaptive stress response.

Recent scientific discoveries, he says, reveal that a precise diet – with only minimal calorie reduction – can mimic many aspects of CR in terms of regulating gene expression, “inducing the beneficial adaptive stress response that our bodies so desperately need.”

To accomplish that, the Gene Smart Diet emphasizes the addition of fiber, balancing the omega fats (such as fish oil) and increasing specific families of polyphenols, which are found in many fruits and vegetables and also in some “treat” foods such as red wine and chocolate. The book includes grocery lists and a 35-day menu plan, and it recommends “the right types” of exercise.

(Not connected with the publication of the book, Chilton published a paper this month in the *Journal of Biological Chemistry* that demonstrated, for the first time in humans, that altering the amounts of certain types of polyunsaturated fatty acid [PUFA] in the diet in a manner similar to our understanding of hunter-gather diets markedly reduces the expression of critical genes that control allergy and autoimmunity.)

Results of Chilton’s own research that included 65 participants on a regulated prototype Gene Smart Diet have just been accepted for publication in the *Journal of Chronic Disease Prevention*, a peer-reviewed, public health research, practice and policy journal published by the Centers for Disease Control.

The Gene Smart Diet: The Revolutionary Eating Plan that will Rewrite Your Genetic Destiny – And Melt Away the Pounds, by Chilton with Laura Tucker, is published by Rodale Inc. and distributed by Macmillan.

Chilton has a financial interest arising from potential royalties from his books and from potential product sales related to his patents. His conflict of interest has been disclosed to Wake Forest University School of Medicine and outside sponsors, as appropriate, and is being institutionally managed.

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EDITORS: If you are interested in reviewing this book, please email Mark Wright, mwright@wfubmc.edu, to request a copy. Please include mailing address and telephone number.

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