THE HEALING SECRETS OF FOOD REVEALED

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SPECIAL SERIES

21st CENTURY NUTRITION G.E.M.s*

3 Scientific Breakthroughs
TO
Build Your Body-Mind Health

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SPECIAL SERIES:
21st Century Nutrition G.E.M.s: 3 Scientific Breakthroughs to Build Your Body-Mind Health
EPISODE 5 May 7, 2024
#1 Meta-Discovery: Food, Genes & Health

TITLE: Reclaim Your Health Destiny: Program Your Genes for Wellness. Not Illness.

#1 Meta-Discovery: Food, Genes & Health

Twenty-first century scientific breakthroughs about food and health are changing the vision of nutritional wellness. We now know the food you eat is more, much more, than an amalgam of nutrients. It also sends signals to your genes that can reset them for wellness. Or illness. Here's how it works.

G.E.M.
META-DISCOVERY
#1 of 3

Food, Genes, Health

SPECIAL SERIES: 21st CENTURY NUTRITION G.E.M.s

In this episode 1 of my 3-part Special Series: **21st Century Nutrition G.E.M.s: 3 Scientific Breakthroughs to Build Your Body-Mind Health,** I'll be discussing the first of three breakthrough findings that are so huge, they actually create a re-visioning of how food and nutrition can prevent health problems for which you're at risk; and also turn around—and reverse—many chronic body-mind conditions, from overweight and obesity to heart disease, diabetes, depression, and more.

All three meta discoveries are intimately interconnected, but I'm telling you about each independently, so you'll realize the powerful role each plays in health and healing, and how each is contributing to a re-visioning of nutritional health.

Today I'm discussing the first of three meta discoveries—which is about how you can eat to switch off genes you may have that put you at risk for a particular health problem. We'll cover how food influences your genes, and I'll give you optimal-eating strategies about the kinds of food to eat that may switch off genes that put you at risk for health problems. The end result: You up the odds of being both thinner and healthier. For a lifetime.

NOTE. The next episode in this special series on 21st century, meta discoveries about food and health, explores another groundbreaking, 21st century breakthrough that empowers you to reclaim your health. One meal at a time.

THE HEALING SECRETS OF FOOD REVEALED

TRANSCRIPT

Hello! Welcome to The Healing Secrets of Food Revealed. TODAY'S TOPIC is Meta-Discovery #1 in my Special 3-Part Series on food and health. The title? Reclaim Your Health Destiny: Program Your Genes for Wellness. Not Illness.

I'm Deborah Kesten—nutrition researcher and host of The Healing Secrets of Food Revealed, and I'm on a mission: To give you the science-backed, weight-loss wisdom you need to eat less and weigh less. Without dieting.

In each episode, I'll translate cutting-edge weight-loss research into actions you can take that can make a real difference in your weight and well-being.

LET'S GET STARTED!

Meet Meta-Discovery #1: The healing power of food and your genes.

Today's topic is the first of three **meta-discoveries** in my Special Series about the profound power of food to influence your health and well-being. Why am I calling today's topic a meta-discovery? *Meta* is a Greek word that means 'beyond' in English. *Meta* also describes something that transcends its original limits; it suggests we're seeing something from a higher perspective.

In this special 3-part series on The Healing Secrets of Food Revealed, the discovery I'm discussing today is meta because transcends and go beyond last century's view of nutrition and health. In other words, it gives us an *aerial view* of the influence of food on your health, instead of the more familiar and traditional *micro-view* of nutritional science, which, simply put, studies food, nutrients, and other ingestible substances and their effects on the human body.

Here's today's meta-discovery:

The food you eat has the power to program—or reset—your genes—your genes—for wellness or illness. In other words, 21st century science has discovered there's a proven link between the food you eat and whether your genes "express" the health problem they're coded for; or whether the illness that may be coded in your genes is "switched off"—by the food you eat—so that the condition doesn't manifest. WOW!

Reclaiming Your Health Destiny

Here's another way to explain the food-gene-health connection and what it means to you: The food you eat sends signals—or messages—to your genes, which can increase—or decrease—your personal genetic susceptibility to wellness…or illness. Your diet doesn't affect the genes you carry—that doesn't change. But diet may influence whether those genes are expressed. Or not.

The bottom line: The food you eat can switch on, or switch off, the expression of ailments for which you may be at risk. And it is the quality of the food you eat, meaning—either fresh, whole food or processed and denatured food (often called ultra-processed food)—that is the key determinant of whether "illness genes" are switched on or off and in turn, whether you'll experience wellness or illness.

Welcome to the emerging, 21st century science of **nutrigenomics**.

In the introduction episode of The Healing Secrets of Food Revealed, Episode 1—which is about 'Your Roadmap to Eating Less, Weighing Less. Without Dieting'—I told you that my passion is to add scientifically

sound wisdom to the weight-loss conversation, so you're empowered to transform your relationship to food and eating, and in turn your weight and well-being.

The 21st century, meta-discovery of nutrigenomics—and the power of food to actually "switch off" the expression of an illness that may be coded in your genes—is, in my opinion, a paradigm-shifting, re-visioning of nutritional health and healing. A reminder…I'll be telling you about two more meta-discoveries in the next two episodes—which are part of this 3-part, Special Series on meta-discoveries, diet, and health—but for today, let's dive deeper into **nutrigenomics**, its amazing evolution, and of course, how you can benefit from this new, nutrition specialty—which tells us this game-changer:

Your genes don't necessarily determine your health destiny. It is diet and the foods you eat each day that have a strong influence not only on your weight and well-being. But now we also know how you can use food to switch off the expression of health-harming genes; and in this way, reclaim your health destiny.

Discovering Nutrigenomics

Here's what we know today about the interaction between food you eat, genes you've inherited, and health.

The first thing you need to know is that this new science about what macro- and micro-nutrients in your food—meaning, protein, carbs, and fats, vitamins, minerals, fiber and so on—what these nutrients tell your genes, is called **nutrigenomics**. "Nutri" means "to feed, to nourish"; and "genomics" refers to the genome in every cell of your body that houses your genes. You may also hear the terms "Nutrigenetics" and "Diet-gene interaction" to describe the study of food, genes, and health. And, as we discover more about nutrigenomics today, you may also find it useful to know that humans have between 20,000 and 25,000 genes in each genome in each cell.

Ancient Food Wisdom Meets Modern Nutrigenomics

I'll tell you more about food, diet, genes, and health in a moment, but first, I want to highlight this: The idea that there is an interaction between the food you eat and the genes you inherit is an ancient one, going back perhaps 10,000–12,000 years. Here's an example of ancient food wisdom about diet and genes, and what modern nutritional science can tell us about it.

Most of us are familiar with the condition lactose intolerance, a condition where people with lactose intolerance are unable to fully digest the sugar (lactose) in milk and dairy products. Because of this, they have symptoms that can include, for instance, abdominal cramps, bloating, and more. The treatment is quite simple: Avoid milk and dairy products with lactose, and any products and supplements that contain lactose.

I'm giving you lactose intolerance as an example, because the reason some people cannot digest milk products is due to a gene they have that encodes—or instructs lactase—the enzyme that breaks down lactose. And this gene—which is a polymorphism that alters the function of genes—is causing the problem. An understanding of this polymorphism—not of the gene, but that some people have a problem digesting something in milk, appeared in northern Europeans thousands of years ago.

Flash-forward to today. Knowledge that a gene is linked with lactose intolerance has traveled through the centuries. So when the revolution in molecular genetics evolved in the late 20th century, scientists were poised to identify genes that interact with not only dairy, but also with other dietary components and nutrients.

By the 1980s—just 40 years ago—nutrigenomics was in its infancy (actually, it still is). It took the Human Genome Project of the 1990s—an international project that cost $2.7 billion, which mapped and sequenced the entire DNA in the human genome—to jump-start the science of nutrigenomics. Now, in this century, since 2007, scientists have been discovering more and more about the relationship and interaction amongst genes, nutrition, and disease.

The key players in nutrigenomics are **DNA** (the carrier of genetic information), **RNA** (molecules made of the same building blocks as DNA, which perform many different functions in coding, decoding, and expressing genes), and **proteins** that carry out different functions in your body—including whether a gene is activated.

Or not. The bottom line: What you eat has both immediate and long-term effects on how major genes function—and in this way, whether they contribute to wellness. Or illness.

What this mean to you…

What does the meta-discovery—that food interacts with your genes, and in turn influences your health—mean for you in real life? It's a game-changer for all of us because it revolutionizes both nutritional science and its implications for what you can do to take charge of your health each time you eat.

Here's what Monica Dus, an Associate Professor of Molecular, Cellular, and Developmental Biology at the University of Michigan, says about the powerful influence of food on our genes: "Depending on the type of nutritional information, [and] the genetic controls [that are] activated…," she says that we now know that "the messages in food can influence wellness, disease risk and even life span." Wow!

In other words, Dr. Dus is saying that "communication between food and genes may affect your health, physiology and longevity." And she offers still more good news. "The efforts of scientists to decipher this transmission of information," she says, "could one day result in healthier and happier lives for all of us."

Research

Here are some examples of some exciting state-of-the-art studies about how messages your genes receive when you eat, can program your genes for health and preventing disease.

As you'll see, these studies on nutrigenomics show us that certain vitamins and minerals in certain foods that you eat determine the messages your genes receive, and in turn, that you can prevent—and reverse—certain health problems that are coded in your genes.

The studies I've selected are about food and its power to protect against certain cancers, heart disease, obesity, and diabetes—chronic conditions with which millions of us struggle.

CANCER. Researcher Tabitha M. Hardy published a study in the journal *Epigenomics*, that identifies several different bioactive compounds in food that have anti-carcinogenic properties, that (1) prevent cancer, (2) and that influence and decrease the progression of existing cancers. These foods include tea, soy food, some herbs, the spice curcumin, cruciferous vegetables (such as broccoli, kale, and cauliflower), purple grapes, and garlic.

Here's the **food-gene-cancer** link: Compelling research has linked the bioactive dietary components in these plant-based foods and beverages, with activating genes that suppress tumors, and repress (switch-off) cancer-related genes.

HEART DISEASE. As with the study I just told you about that links certain components in certain plant-based foods with suppressing the expression of genes coded for cancer, more and more studies are looking at the use of bioactive foods and nutraceuticals in preventing and managing heart disease (Sharma and Singh 2010). For instance, one study published in the *Journal of Food Science Technology* suggests that foods rich in omega-3 fatty acids (such as cold-water fish like salmon, tuna, and sardines; and also nuts and seeds, especially flaxseed and walnuts); and antioxidant vitamins (such as vitamin C); and high-fiber food (especially fruits, veggies, and legumes, meaning beans and peas) may be beneficial for cardiovascular health.

Here's the **food-gene-heart disease** link: Research by Kamra and team (2005) found that fish oils and naturally occurring nutraceuticals in no-fat-added plant-based diets (*nutraceuticals* mean a food contains health-giving qualities and therapeutic benefit) not only protects against heart disease, these foods also play a major role in the **positive regulation of genes**. I interpret this to mean that key nutrients in plant-based food suppress the expression of heart disease for which certain genes are coded.

A brief personal note. I think these findings may apply to me personally. Both my parents had heart disease, but I don't. And I believe this is likely due, in large part, to the mostly plant-based diet I've been following for decades.

OBESITY & DIABETES. From the perspective of nutrigenomics, both obesity and diabetes are the result of an imbalanced diet (translation, lots of highly processed, high-sugar, high-fat, high-calorie foods), which interacts with genes that were once functional and adaptive and working well in an earlier phase of human evolution; a time when food was real food (meaning, mostly fruit, veggies, whole grains, beans and peas, and nuts and seeds, with small servings of fresh animal food, such as fish, poultry, and occasional meat). In today's modern environment, when a majority of children and adults consume a diet of mostly ultra-processed foods (which I call 'chemical cuisine'), these same, formally healthy genes that code our bodies for hormonal or metabolic processes, have become maladaptive, unhealtlhy, and disease-prone.

The Western Diet, Genes, and Illness

In other words, the Western diet many of us eat today, plus the way many of us live now, our lifestyle—means lots of stress, not much physical activity, inadequate sleep, and social isolation and loneliness. Diet and these other lifestyle elements all working together to **increase our genetic susceptibility to obesity and diabetes and other chronic conditions** that have become the norm for millions of us.

Then there's this: In addition, says Lynn Ferguson, a nutrition professor at the University of Auckland in New Zealand and program leader of the New Zealand National Centre for Research Excellence in Nutrigenomics, "Total dietary intake, and the satiety value of various foods, will profoundly modify the impact of [certain] genes." In the journal of *Molecular Diagnosis & Therapy*, Ferguson cites studies that have linked five common genomic variants called SNPs (the acronym for single nucleotide polymorphism (abbreviated SNP, pronounced snip) that increase obesity risk and resistance to weight reduction. "These SNPs represent promising targets for future nutrigenomic studies of people at risk for obesity," she says.

The Takeaway: Genes are NOT Your Destiny

Here's the takeaway: State-of-the-art nutrigenomic research is suggesting that *the Western diet, especially, is creating gene alterations that are making us genetically susceptible to a plethora of today's chronic conditions*--from becoming overweight, insulin resistance and diabetes, heart disease, and more.

At the same time, nutrigenomics is a revolutionary view food of food that tells us food is about more, much more, than sustenance and calories. We now know that the right foods are actually capable of reversing disease and preventing ailments for which we're at risk genetically—(as I am with heart disease, because both parents had heart disease). And this emerging specialty also tells us that a nutrient-dense diet can turn on genes that can forestall aging; and return a person to health.

The bottom line: There's a proven link between food and gene expression. Your diet doesn't affect which genes you carry, but it may influence how those genes function—so much so that chronic conditions may be prevented, even reversed, based on the nutrients in your food.

Such a meta-discovery about food and genes suggests that Hippocrates-Father of Medicine (460-360 BC) was right when he said, "Leave your drug in the chemist's post if you can heal the patient with food."

'In-Action' Ideas to Try
A tip, step, or reflection that can contribute to your success.

So you can reap the rewards of what you're discovering today about optimal eating, I close each episode with an '**In-Action' Idea** for you to try. This may be a **Quick-Tip** about how to implement the healing secret we just discussed; or a **Practical Step** you can take, such as ordering a size-down of your favorite coffee concoction. Or perhaps I'll suggest a **Self-Insight Exercise**, an internal-reflection that can lead you closer to achieving your food-related health goals.

I offer an In-Action Exercise at the end each episode that can contribute to **your transformation from today's, 'new-normal' way of eating—which leads to overeating and overweight—to Whole Person Integrative Eating—which I describe as your** scientifically sound, personal guide to eating less and weighing less. Without dieting.

Consider keeping a Healing Secrets of Food Revealed journal to write about your experience with each In-Action Exercise.

YOUR IN-ACTION EXERCISE

Today's In-Action Exercise is a **Self-Insight Reflection** that invites you to consider what today's meta-discovery about food, genes, and health means to you.

Here's today's In-Action, Self-Insight Reflection.

SELF-INSIGHT REFLECTION

Perspective. Last century's model of nutritional science told us "food is fuel, the body is a machine," and that weight loss is based on a 'calories in-calories' out "fuel" formula. We were also told our genes are our destiny.

Today's episode reveals that food, health, and weight is about more than counting calories, carbs, protein, and fat; rather, food sends signals to your genes that have the potential to increase—or decrease—your personal genetic susceptibility to wellness or illness.

What are your thoughts about this meta food-gene-health discovery? Is it influencing your thinking about what to eat to promote weight loss and well-being? If "yes," how so? If "no," why not?

Thank you…

If you would like a summary of today's In-Action Exercise, please visit HealingSecretsPodcast.com. Then look for the yellow light bulb next to the "In-Action" CTA. At HealingSecretsPodcast.com, you can also listen to this episode again, read the transcript, and, please consider joining The Healing Secrets Podcast Community—where I'm looking forward to meeting you.

In the next episode of The Healing Secrets of Food Revealed—which is Episode 3 of this 3-part series on Meta-Discoveries: Food, Genes & Health—I'll tell you about another 21st century scientific discovery that broadens our vision of nutritional health, and that empowers you to take charge of your health so you can reclaim your health destiny for wellness. Not illness.

I want to thank you for joining me today on The Healing Secrets of Food Revealed. With each show, I'll share step-by-step, science-backed insights you need to nourish 'all of you' – body, mind, soul, and social well-being – each time you eat. So you can thrive.

I'm Deborah Kesten, host of The Healing Secrets of Food Revealed.

Until next week, BE NOURISHED.
