

The Age of Personal Nutritional Genomics – Rewriting Your Genetic Expression

For the past 50 years we have been told that our inherited genetic blueprint was the ultimate dice game that Life randomly rolled out for us – for better or worse. However, the new revelations in the science of Epigenetics reveal that we can profoundly influence and alter many of our gene expressions.. Rather than being hostage to our gene pool inheritance, we actually have the power to participate in our health destiny.

As it turns out genes and DNA are not the final arbiters of our biology. Our DNA is actually controlled and altered by signals from outside the cell. Although people enter the world with a particular genetic code there is level above the genes that determines how genomic messages are communicated. It is now known that there are many influences that can activate or silence specific gene expressions..for better or worse.

Just how can we affect our unique genome? The answer is found in the science of Nutrigenomics, the practical application of Epigenetics. Specific foods, targeted nutritional supplementation, exercise; environmental exposures and even our thoughts and feelings have been proven to impact how certain genes are expressed. We are in constant communication with our genes. Learning how to talk to our specific gene expressions empowers each of us to design a personalized health protocol.

Enter the World of Nutrigenomic Testing

Personalized medicine and healthcare have arrived in the form of Nutrigenomics. A one-size-fits-all approach to diet and supplementation no longer makes sense in light of Nutrigenomics. Your risk of developing specific chronic illnesses, your ability to recover and even how well you achieve healthy aging all depend on knowing your unique gene profile through the language of diet, nutrition, exercise and life style factors.

Nutrigenomics is the study of how food and genes interact with one another. This interaction is two ways. Food is more than just fuel for the body. It contains many biologically active molecules, which are capable of affecting gene expression and, thus, biochemical activity of cells and tissues.

Nutrigenomics reveals how our individual genomic messages can effectively

manage such key physiological functions as inflammation, oxidative stress, cardiovascular function, blood pressure, methylation (the ability for proper DNA repair and detoxification), liver detoxification, Vitamin D metabolism, and efficient fat metabolism. These critical gene expressions play a fundamental role in the body's ability to heal, repair and regenerate.

How can Nutrigenomic testing be of benefit? By discovering your specific genomic "Achilles heels", known to play a role in the onset, incidence, progression and/or severity of chronic diseases, you have powerful knowledge to make the best choices for your unique genomic footprint.

Exploring my Personal Nutrigenomic World

Since I have a family history of cancer and cardiovascular disease, I thought I would delve into the secrets of my genome and discover how I might be more effective in optimizing my health destiny. The test, itself, is incredibly simple. It only requires a small saliva sample, which is mailed directly to the laboratory. It looks at 100 critical gene expressions that play a major role in supporting our health.

I found the test results nothing less than profound. I learned more pieces of my health puzzle that I had not previously known. I was then able to tweak my health protocol to up-regulate the genes that were definitely in need of some nutritional fine-tuning.

Risk factors for heart disease and cancer were definitely brewing within me. As an example, I had gene variations that affected my body's ability to manage inflammation, and oxidative stress. More target supplementation in this department was definitely needed.

Genomically, I was severely compromised in utilizing the common form of folic acid. Unless I used a special form of folic acid, I was at risk of strokes, blood clots and even cancer. These gene variations are also known to contribute to such conditions as autism, neurological and mood imbalances, breast, prostate and other cancers, infertility and birth defects.

The detoxification panel revealed that my detoxification pathways were severely compromised. I was especially challenged in detoxifying environmental estrogens. This is an especially relevant risk factor for breast, ovarian and uterus cancer in women and prostate cancer for men. This gene variant affects the

liver's ability to deactivate all estrogenic compounds. I.e. endocrine disrupting chemicals, endogenous estrogens and exogenous estrogens found in the Pill HRT and Bio-identical hormones.

I also found out that I was very compromised in making glutathione, a very important anti-inflammatory, anti-oxidant and liver-detoxifying molecule. In fact, one of my important glutathione expressions genes was deleted. Low glutathione levels are a risk factor of cancers, diabetes, cardio vascular disease, Parkinson's disease and Alzheimer's. Based on this information I altered my diet and incorporated more specific supplementation to improve my body's ability to detoxify.

Another panel examined how well my body produces the Vitamin D hormone. My test revealed that I had several genes that make it more difficult for me to actually synthesize Vitamin D. With this knowledge, I now test my vitamin D levels regularly and insure I am taking adequate Vitamin D to insure I stay in optimal range. Low Vitamin D levels have been associated with many types of cancer, low bone density, weakened immunity, great risk of inflammation and insulin resistance.

My test also revealed that olive oil supported my cardiovascular health while flax oil was pro-inflammatory. Speaking of pro-inflammatory, it became clear from my gene read out that I was good at storing fat but not burning it.... so a low carb diet is necessary for me! It also confirmed that I was gluten and lactose intolerant!

I am so grateful for what I learned from this test. I now found the specific nutritional and lifestyle road map to guide me along my highway of good health. It has taken all the guesswork out of designing the best nutritional program. Rather than being confused with the latest diet or workout fad, I now know exactly the kinds of foods, supplements and even exercise that will support me at the most fundamental level to achieve my goal of getting younger and healthier as I get older.

There is no doubt that personalized Nutrigenomic testing allows each of us to hit the bulls eye when it comes to designing our unique dietary and nutritional program. It removes the guesswork of how to best fuel your body. When you live in harmony with your genetic potential, you can more effectively heal from a chronic illness, optimize your health and longevity and minimize your risk of disease. I am convinced that this 21st century technology is an indispensable road map healthy future.

Dr Michael Culp, naturopath and director of Integrative Health Solutions Ltd. expresses my sentiments perfectly. “Nutrigenomics is quite distinct from genetic medicine. Both are genetic, but they are as different as counseling and brain surgery, both of which are to do with neurology. I am already using nutrigenomic tests in practice – mainly with patients who have a history of heart disease, cancer patients, and those with high cholesterol who are not responding to treatment. With cancer patients, I look at gene variants to see if we can strengthen detoxification. I see this usage increasing in the future....”

Your genes are talking to you. Are you listening?

Sherrill Sellman, N.D., Naturopathic Doctor (Board Certified in Integrative Medicine), is an educator, women’s natural health expert, psychotherapist, radio host, journalist in the field of women’s health. Dr. Sellman is the best-selling author of Hormone Heresy: What Women MUST Know and What Women MUST Know to Protect Their Daughters from Breast Cancer .

Dr. Sellman offers Nutrigenomic testing to people worldwide. She can be contacted at drsellman@whatwomenmustknow.com. Her website is www.whatwomenmustknow.com