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Dinnertime and DNA, Part 2

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In our last article, we covered how even with a strong family history of disease, the power to positively alter that inheritance lies with lifestyle choices. The science of epigenetics is busy uncovering the far-reaching effects our choices can actually have. Epigenetics describes some of the changes DNA can make according to stimuli in the environment. There are several emerging aspects of this new branch of science with interesting dynamics regarding our everyday lives. In this article, we will look at a few nutrition-related issues.

Every organism responds to stress and changes its physiology and genetic signals accordingly. Plants for example, have been shown to change their carbohydrate storage molecules in response to pesticides and chemicals (which can be stressors in their environment). The animals that consume the plants then take in some of those changed carbohydrates along with the messenger molecules which altered the carbohydrates. If those animals are also exposed to unhealthy conditions, they can respond by creating molecules that react to the environmental challenges. When we consume these animals, we correspondingly absorb some of the accumulated response molecules. These molecules are capable of causing a cascade of effects in DNA and individual physiology. Obesity, for example, is currently being

thought of in some research circles as a reaction to inflammation caused by response molecules.

How does this affect us? In everyday terms, DNA alteration means faulty enzymes, which direct most metabolic balance, cell growth and repair tasks of the body. Someone with a family history of diabetes could conceivably have inherited the tendency from a few generations earlier. Coupled with a lifestyle that provokes its manifestation, they produce the disease and possibly will pass on an increased tendency to that disease via their own response molecules, to future generations.

A 51-year-old patient at our clinic with a strong family history of heart disease and stroke complained of high cholesterol and high blood pressure. We ran the reputable genomic tests, and discovered that he had a mixed predisposition for cardiovascular disease. Rather than accepting this as a doomsday sentence, we advised some lifestyle changes to influence his fat storage chemistry. Today, his levels are much improved and he also has gained insight into which medications, if needed, would benefit him the most.

This is not a message of despair, but instead one of hope that a person's lifestyle really can determine the style of one's life. Our bodies are like the worldwide web.

We can choose what information we "Google", what connections we make between nutrients and cellular DNA, and how we affect future generations, our own immediate children's state of health, and that of our species.

At our clinic, care is taken with family histories to connect the chemical relationship between our clients' current conditions, their genetic inheritance and the specific positive steps they can make to maximize health and longevity. A successful state of biochemical balance in the body can result in an increased healthspan, one which allows a person to be their healthiest until very close to the end of their lifespan. Remember, your nutrition choices today may affect your future grandchildren's health tomorrow.



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