

Over the Counter Genetic Tests and Nutrition: *What We Know Today*

There are several companies marketing genetic test kits that promise to provide personalized diet and/or lifestyle recommendations. This is how it works: A person collects a DNA sample, usually by swabbing the inside of the cheek with a cotton tipped swab, and sends it to the company for analysis. Then, the company sends back diet and lifestyle recommendations.

These tests are based on a science called *nutrigenomics*, which studies how our diets influence health by changing the way our genes work. **However, nutrigenomics is a new, emerging science, and there is still much to be learned. Here is what we know today.**

We know that . . .

- ◆ Our genes interact with environmental factors such as food, activity and smoking to determine our health.
- ◆ Dietary products may alter the way our genes work. Genes that are regulated by diet play a role in disease onset, progression and severity.
- ◆ Diet and lifestyle recommendations based on these test results are personalized.
- ◆ These tests may provide information regarding the risk of chronic disease and motivate some people to maintain healthy habits.

However . . .

- ◆ Interaction between genes and the environment is in a constant state of change. Our understanding of this process is very limited.
- ◆ We do not know how nutrigenomic test results apply to “real life” situations or how this lack of information will affect the accuracy or usefulness of the tests.
- ◆ Diet and lifestyle recommendations based on these test results are not very different from the current general recommendations.
- ◆ Information about chronic disease risk might make some people feel fatalistic and helpless to improve their health.

Take Home Messages:

- 1. Nutrigenomic research is a new field of study that holds great promise. However, since we know so little about how diet affects gene function, use of this information may be premature.**
- 2. There are many causes of disease that nutrigenomic tests cannot identify. Therefore, people should not depend too heavily on test results for information about disease risk.**
- 3. Knowing family health history is a good way to determine your risk for many chronic diseases.**



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