



## ASK A NUTRITIONIST

with Tara Postnikoff

### Q: Do my genetics influence the way I should eat as a runner?

**Q** You may have noticed that sometimes there are conflicting results in scientific studies related to the foods we should or should not eat. One day you read that caffeine is good for you but the next day, it's not. Sometimes carbs are the answer to weight loss, while other days it's protein.

The answer, in part, is because of our genetics. A newer field of study, called nutrigenomics, looks at how individual genetic variations affect a person's response to nutrients and impacts the risk of nutrition-related chronic diseases. This can help runners take their nutrition to the next level and personalize their diets for optimal health and performance. In other words, while everyone can benefit from a healthy and balanced diet of nutrient-dense vegetables and minimally processed foods, your genetics can help identify specific nutrition recommendations to optimize health, body composition and reduce your risk of certain diseases.

Examples of genetic variability include whether or not an athlete will respond to a given dietary intervention such as a moderate to high protein diet, or ability to metabolize starch well. These are key markers for runners to know whether they should be eating a high protein diet, or restricting carbohydrate intake.

Another interesting gene is one that has implications for energy balance. If you have the variant for a lower resting metabolic rate it means that you will have a harder time losing weight than someone with a faster metabolic rate. However, this also means that during exercise you will burn fewer calories, making you more "efficient" during endurance races.

Caffeine has been widely studied its possible health and performance effects, but the results have been variable at times. We know now that the variability in the study results comes from the gene related to the enzyme that breaks down caffeine. Caffeine is a stimulant and has been shown to significantly boost performance, delay fatigue and improve cognitive focus in some athletes, while studies have also shown that it can have the opposite effect and be a performance detriment to others. Knowing this information helps determine whether an athlete should consider sports nutrition plan that contains caffeine for their races.

Other markers that can be tested include risk factors on lactose and gluten tolerance as well as risk for potential deficiencies in a number of vitamin and minerals such as vitamin B12, vitamin D, calcium and iron.

How do you get your genes tested?

There are a number of companies that provide these services, at a cost of approximately \$300 to \$500. As with all things, make sure you research the company that is providing the test to ensure that they have the scientific studies to back up any statements they might be making.

Make sure you are using a qualified practitioner to help you interpret the results. Genetic testing is a tool that helps to make personalized dietary recommendations based on an individual's needs, rather than come up with generalized recommendations. DNA-based dietary advice can provide runners with a better understanding of the recommendations and greater motivation to change eating habits. **RR**

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