

Written by Nancy Clark, MS RD CSSD
Friday, 21 November 2014 14:57 -



Beets, genetics, and weight were just a few of the topics highlighted at the Academy of Nutrition and Dietetics' 2014 Food & Nutrition Conference and Expo. Here's an update with some food for thought.

Eat Your Beets!

Beets and arugula are powerful nitrate-rich foods that can enhance both athletic performance and your overall health. These vegetables are rich sources of dietary nitrate, a potent food compound that converts into nitric oxide (NO), a gas. NO easily penetrates cell tissues and, in at least 90 minutes after consumption. It signals blood vessels to dilate (relax), which improves blood flow. For you, a runner, improved blood flow enables more oxygen to get to your muscles. Research suggests pre-exercise beets or beet juice can enhance performance. That's why commercial sports supplements such as BeetIt or BeetElite are gaining in popularity among competitive runners. You can even buy nitric oxide test strips to determine if you are "workout ready." (\$2.20/strip!)

- Not too long ago, you might remember having been warned to stay away from dietary nitrates, particularly the sodium nitrate in processed meats (such as bacon, hot dogs, and ham) added to extend the meats' shelf-life and prevent deadly botulism poisoning. Current research indicates nitrates (even in high doses) are not carcinogenic.

- The preferred food sources of nitrates include vegetables, specifically beets, arugula, celery, lettuce, kale, spinach, collards, Swiss chard, and bok choy. These offer more than 250 mg nitrates per 3.5 oz (100 g) serving. Veggies low in nitrates include broccoli, green beans, tomato, sweet potato, and peas. The average American consumes 40 to 100 mg nitrates a day, less than the 300 to 500 mg. dose recommended to improve performance. Yet, athletes can easily consume that dose with an average spinach salad topped with a beet or two (if you can tolerate that for a pre-exercise meal.)

- The amount of nitrate in vegetables varies from state to state. Celery grown in New York

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State has fewer nitrates than celery from Los Angeles. Thunderstorms influence nitrate concentration. Lightning (yes, lightning) changes the nitrogen in the air into nitrous acid. Rain carries that into the soil, and then bacteria in the soil convert it to nitrate and plants use it to make protein.

- Bacteria in the mouth help convert nitrate into NO. People who use mouthwash twice a day have less bacteria in their mouths, thus less NO (and often higher blood pressure).

- As we age, our ability to generate nitric oxide declines. By age 40, we make 50% less NO than when we are age 20, and far less then when we are 70. This decline is associated with blood vessel changes that lead to cardiovascular disease, mental decline, and even erectile dysfunction, (Viagra enhances NO-mediated vasodilatation.)

- NO improves blood glucose uptake. Therefore, people with diabetes (as well as all of us) will benefit from a nitrate-rich diet. Eat your veggies!

Personalized Nutrition

The wave of the future is genetic testing for personalized nutrition guidance. Your genetic make-up (as identified by collecting DNA from saliva or a cheek swab) can give a snap shot of how you could eat for optimal health. The test generates a personal profile regarding susceptibility to disease. For example, some people can eat eggs yet have low cholesterol; others need to avoid eggs to prevent high cholesterol. One size does not fill all when it comes to dietary recommendations.

- We currently know that some people have a genetic variation that makes them more susceptible to heart disease if they drink more than 4 cups of coffee a day. We also know 50% of us are "slow caffeine metabolizers" who have trouble sleeping if we consume caffeine in the afternoon. Genetic variation can also determine who should limit salt intake to reduce risk for high blood pressure, and who has undiagnosed celiac disease.

- Should you jump on the bandwagon and spend \$400 or more to get your genetic profile?

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The 2013 Academy of Nutrition and Dietetics Position Stand on Nutritional Genomics states “The practical application of nutritional genomics for complex chronic disease is an emerging science and the use of nutrigenetic testing to provide dietary advice is not ready for routine dietetics practice.” Yet, many people are curious and have found the information to be helpful. It motivates them to change their eating habits and take nutrition guidance seriously. I'll let you figure out if you want to wait for more robust data to be collected and for health professionals to be better trained in interpreting the data.

Ditchin' the Diet

Despite popular belief, you should not assess your health based solely on your weight—and certainly not on your Body Mass Index (BMI). BMI is based on body mass. Many very lean and muscular athletes have a high BMI! They perform well, despite their higher weight.

- Health At Every Size (HAES) is a national non-diet movement that encourages people to think twice before going on a reducing diet because we know that diets don't work in the long run. In fact, diets may inadvertently promote weight swings, disordered eating, and body hatred.

- The non-diet approach encourages you to accept and respect the fact that humans come in a diverse body shapes and sizes. No one idealized shape is best—not even for athletes. Perhaps you can let your body be “good enough”...?

- HAES encourages everyone to fuel for well being, choose meals based on hunger, satiety, nutritional needs, and pleasure. You want to eat mindfully, intuitively, and stay attuned to the portion your body actually requires (often more than offered by a Lean Cuisine). Intuitive eating is the opposite of eating according to how much that app says to eat.

- While exercise is an important part of a weight management program, HAES encourages health-enhancing movement that is enjoyable and suits your interest. Maybe you'd really prefer more yoga and less running? Make sure the E in your Exercise and Eating programs stands for Enjoyment.

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▢ Additional information

Food sources of nitrates and nitrites: the physiologic context for potential health benefits

<http://ajcn.nutrition.org/content/90/1/1.full> American Journal of Clinical Nutrition, 2009

www.nancyclarkrd.com (books, handouts, PowerPoint talks)

Nancy Clark's Sports Nutrition Guidebook NEW Fifth Edition

Food guides for soccer, new runners, marathoners, cyclists

Athlete's Kitchen - What's New? Nutrition Update from the Academy of Nutrition & Dietetics

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"Helping active people win with good nutrition."

Read the other Nancy Clark's articles on [http:// www.runohio.com](http://www.runohio.com)

ADHD, Runners & Appetite Issues -
<http://runohio.com/index.php/features/846-the-athletes-kitchen-adhd-runners-a-appetite-issues>

To Eat—or Not to Eat: The Pre-Run Question - <http://runohio.com/index.php/features/843-the-athletes-kitchen-to-eator-not-to-eat-the-pre-run-question>

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Super Sports Foods: Do They Really Need to be Exotic? - <http://runohio.com/index.php/features/825-the-athletes-kitchen-super-sports-foods-do-they-really-need-to-be-exotic>

Carbohydrates: Why are they so confusing? - <http://runohio.com/index.php/features/772-the-athletes-kitchen-carbohydrates-why-are-they-so-confusing>

The Athlete's Kitchen - Runners Staying Away From Carbs: Really? – <http://runohio.com/index.php/features/768-the-athletes-kitchen-runners-staying-away-from-carbs-really>

The Athlete's Kitchen - Sports Nutrition: What's Old? What's New? – <http://runohio.com/index.php/features/747-the-athletes-kitchen-sports-nutrition-whats-old-whatsnew>

March is National Eating Disorders Awareness Month - <http://runohio.com/index.php/features/737-the-athletes-kitchen-march-is-national-eating-disorders-awareness-month>

Quality Sports Nutrition Information: At your Fingertips - <http://runohio.com/index.php/features/721-the-athletes-kitchen-quality-sports-nutrition-information-at-your-fingertips>

Getting Older, Day by Day - <http://runohio.com/index.php/features/700-the-athletes-kitchen-getting-older-day-by-day>

More Sports Nutrition News You Can Use - <http://www.runohio.com/index.php/features/649-the-athletes-kitchen-more-sports-nutrition-news-you-can-use>

Sodium, Muscle Cramps and Sweat Losses: Tips for Sweaty Runners - <http://www.runohio.com/index.php/features/563-the-athletes-kitchen-sodium-muscle-cramps-and-sweat-losses-tips-for-sweaty-runners>

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Injured Runners: Nutrition Tips to Hasten Healing - <http://www.runohio.com/index.php/features/537-the-athletes-kitchen-injured-runners-nutrition-tips-to-hasten-healing>

Why Can't I Simply Lose a Few Pounds? Dieting Myths and Gender Differences - <http://www.runohio.com/index.php/features/525-the-athletes-kitchen-why-cant-i-simply-lose-a-few-pounds-dieting-myths-and-gender-differences>

Lady Runners without Monthly Menses: A Cause for Concern - <http://www.runohio.com/index.php/features/510-the-athletes-kitchen-lady-runners-without-monthly-menses-a-cause-for-concern>

Expanding Your Sports Diet: Seeds and Grains - <http://www.runohio.com/index.php/features/495-the-athletes-kitchen-expanding-your-sports-diet-seeds-and-grains>

Protein and Athletes - <http://www.runohio.com/index.php/features/134-the-athletes-kitchen-protein-and-athletes>

Why Is Weight Loss So Hard...? - <http://www.runohio.com/index.php/features/195-the-athletes-kitchen-why-is-weight-loss-so-hard>

Water: Droplets of Information - <http://www.runohio.com/index.php/features/254-the-athletes-kitchen-water-droplets-of-information>

Dieting—Not Allowed! - <http://www.runohio.com/index.php/features/272-the-athletes-kitchen-dieting-not-allowed>

Sports Nutrition News from The American College of Sports Medicine - <http://www.runohio.com/index.php/features/360-the-athletes-kitchen-sports-nutrition-news-from-the-american-college>

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Yummy Holiday Gifts for Active Friends - <http://www.runohio.com/index.php/features/480-yummy-holiday-gifts-for-active-friends>

Fuelling the Ultra Distance Runner – <http://runohio.com/index.php/features/657-the-athletes-kitchen-fueling-the-ultra-distance-runner>

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