

Nutrition for Endurance Athletes

In order to lose weight it will be necessary to have disciplined eating. You will lose inches and improve your fitness through physical training, but in order to lose scale weight you must improve the quality and reduce the quantity of food.

Timing of eating

The metabolism will burn fat much more readily if you eat several little meals and snacks rather than a few big meals. *Try to eat at 6am, 9am, noon, 3pm, 6pm, and 9pm.* Spacing your meals and snacks every three hours will keep you from getting too hungry or too full.

What you eat

Focus on eating whole, natural foods in the most natural status. That means avoid prepared and processed foods. Focus on lots of vegetables, lean meat and dairy, whole grains, and plant sources of fat such as nuts and olive oil. Eating healthy will involve more trips to the grocery store and increased food expense, but you will hardly miss the fast food and TV dinners.

Don't be afraid to change

The biggest predictor of beneficial outcomes to a training or nutrition plan is that it involves a change from the status quo. If you are a vegetarian look for new sources of protein, such as protein powder or fish. If you eat too much processed food, try eating like a vegetarian. Start taking a multivitamin. Drink more water. Whatever you do, don't allow yourself to "tune out" your eating, because it is an integral aspect to a complete fitness program.

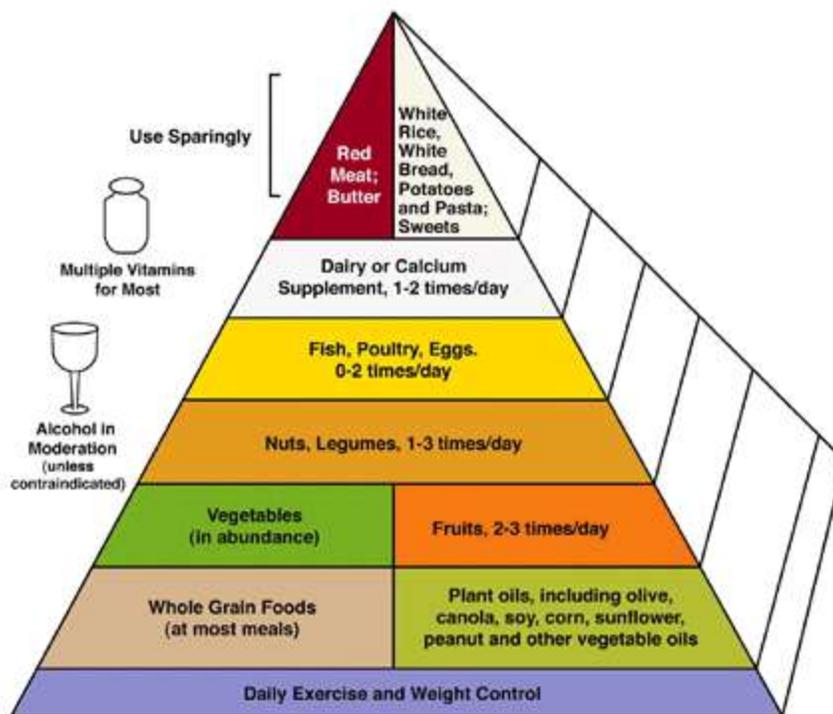
Mini skills

- Eat more slowly. Put your fork down and chew food thoroughly. Focus on conversation instead of eating quickly.
- Get involved in preparing your food. Be conscientious about what ingredients are included in recipes. Learn to read nutrition labels.
- Cut out alcohol and other obvious sources of empty calories. These "treats" should be enjoyed sporadically. Don't completely ban them from your eating, but practice disciplined moderation.
- Fill up on vegetables.
- Be prepared. Pack your lunch. Keeping a readily available supply of healthy snacks will prevent you from making poor food choices.

Building a Better Food Pyramid
Harvard School of Public Health
<http://www.hsph.harvard.edu/nutritionsource/pyramids.html>

Building a Better Pyramid

Healthy Eating Pyramid



If the only goal of the Food Guide Pyramid is to give us the best possible advice for healthy eating, then it should be grounded in the evidence and be independent of business.

Instead of waiting for this to happen, nutrition experts from the Harvard School of Public Health created the Healthy Eating Pyramid. It is based on the best available scientific evidence about the links between diet and health. This new pyramid fixes fundamental flaws in the USDA pyramid and offers sound information to help people make better choices about what to eat.

The Healthy Eating Pyramid sits on a foundation of daily exercise and weight control. Why? These two related elements strongly influence your chances of staying healthy. They also affect what and how you eat and how your food affects you. The other bricks of the Healthy Eating Pyramid include:

- **Whole Grain Foods (at most meals).** The body needs carbohydrates mainly for energy. The best sources of carbohydrates are whole grains such as oatmeal, whole-wheat bread, and brown rice. They deliver the outer (bran) and inner (germ) layers along with energy-rich starch. The body can't digest whole grains as quickly as it can highly processed carbohydrates such as white flour. This keeps blood sugar and insulin levels from rising, then falling, too quickly. Better control of blood sugar and insulin can keep hunger at bay and may prevent the development of type 2 diabetes.
- **Plant Oils.** Surprised that the Healthy Eating Pyramid puts some fats near the base, indicating they are okay to eat? Although this recommendation seems to go against conventional wisdom, it's exactly in line with the evidence and with common eating habits. The average American gets one third or more of his or her daily calories from fats, so placing them near the foundation of the pyramid makes sense. Note, though, that it specifically mentions plant oils, not all types of fat. Good sources of healthy unsaturated fats include olive, canola, soy, corn, sunflower, peanut, and other vegetable oils, as well as fatty fish such as salmon. These healthy fats not only improve cholesterol levels (when eaten in place of highly processed carbohydrates) but can also protect the heart from sudden and potentially deadly rhythm problems.⁽³⁾
- **Vegetables (in abundance) and Fruits (2 to 3 times).** A diet rich in fruits and vegetables can decrease the chances of having a heart attack or stroke; protect against a variety of cancers; lower blood pressure; help you avoid the painful intestinal ailment called diverticulitis; guard against cataract and macular degeneration, the major cause of vision loss among people over age 65; and add variety to your diet and wake up your palate.
- **Fish, Poultry, and Eggs (0 to 2 times).** These are important sources of protein. A wealth of research suggests that eating fish can reduce the risk of heart disease. Chicken and turkey are also good sources of protein and can be low in saturated fat. Eggs, which have long been demonized because they contain fairly high levels of cholesterol, aren't as bad as they're cracked up to be. In fact, an egg is a much better breakfast than a doughnut cooked in an oil rich in trans fats or a bagel made from refined flour.
- **Nuts and Legumes (1 to 3 times).** Nuts and legumes are excellent sources of protein, fiber, vitamins, and minerals. Legumes include black beans, navy beans, garbanzos, and other beans that are usually sold dried. Many kinds of nuts contain healthy fats, and packages of some varieties (almonds, walnuts, pecans, peanuts, hazelnuts, and pistachios) can now even carry a label saying they're good for your heart.

- **Dairy or Calcium Supplement (1 to 2 times).** Building bone and keeping it strong takes calcium, vitamin D, exercise, and a whole lot more. Dairy products have traditionally been Americans' main source of calcium. But there are other healthy ways to get calcium than from milk and cheese, which can contain a lot of saturated fat. Three glasses of whole milk, for example, contains as much saturated fat as 13 strips of cooked bacon. If you enjoy dairy foods, try to stick with no-fat or low-fat products. If you don't like dairy products, calcium supplements offer an easy and inexpensive way to get your daily calcium.
- **Red Meat and Butter (Use Sparingly):** These sit at the top of the Healthy Eating Pyramid because they contain lots of saturated fat. If you eat red meat every day, switching to fish or chicken several times a week can improve cholesterol levels. So can switching from butter to olive oil.
- **White Rice, White Bread, Potatoes, Pasta, and Sweets (Use Sparingly):** Why are these all-American staples at the top, rather than the bottom, of the Healthy Eating Pyramid? They can cause fast and furious increases in blood sugar that can lead to weight gain, diabetes, heart disease, and other chronic disorders. Whole-grain carbohydrates cause slower, steadier increases in blood sugar that don't overwhelm the body's ability to handle this much needed but potentially dangerous nutrient.
- **Multiple Vitamin:** A daily multivitamin, multimineral supplement offers a kind of nutritional backup. While it can't in any way replace healthy eating, or make up for unhealthy eating, it can fill in the nutrient holes that may sometimes affect even the most careful eaters. You don't need an expensive name-brand or designer vitamin. A standard, store-brand, RDA-level one is fine. Look for one that meets the requirements of the USP (U.S. Pharmacopeia), an organization that sets standards for drugs and supplements.
- **Alcohol (in moderation):** Scores of studies suggest that having an alcoholic drink a day lowers the risk of heart disease. Moderation is clearly important, since alcohol has risks as well as benefits. For men, a good balance point is 1 to 2 drinks a day. For women, it's at most one drink a day.

Nutrition for Athletes

By Stephen Taylor

Food Category	What it is/Purpose	Ex
Fruit	Readily absorbed simple sugars, vitamins and nutrients, quick boost of energy.	Bananas, dried fruit, apples, oranges, grapefruit, cranberry juice, peaches
Veggies	Fiber-makes you full, tons of vitamins	Spinach, broccoli, carrots, peas, squash
Complex carbs	Source of steady burning fuel; whole grains are best. Low glycemic index.	Dark versions of bread, rice, pasta.
Lean meat and dairy	Protein, iron, calcium, nutrients, enhance carb uptake	Lean red meat, poultry, fish, eggs, 1/2% milk
Good fat	Source of steady burning fuel	Olive oil, fish, nuts, peanut butter
Bad carbs	High glycemic index. Processed sugars and starches.	White pasta, white flower, soda, high fructose corn syrup, sweets, many fruit juices.
Bad fat	Grease, tastes good but makes you slow. Treat yourself occasionally.	Big Macs, Doritos, Doughnuts, cheese. Partially hydrogenated vegetable oil, trans-fats.

High Carb vs. The Zone Diet

Ever since Martin Atkins introduced the “Zone Diet,” or high protein diet, I continuously have aspiring triathletes and runners ask me about. At the same turn, almost anyone who as ever even heard of running knows about the big “pasta party” before a race. This section briefly compares these two diets, and suggests a nutrition approach.

The Zone Diet is premised on the fact that protein-rich food provides the building materials for lean muscle in the body. Atkins’ reasoning is that when you eat a bunch of carbs, and don’t exercise, then the energy turns to fat. Sound logic so far. Most people eat too much, although they usually eat too many big macs and other junk food. In any case, a high protein diet-low fat diet is only a good idea in rare situations, such as when suggested by a doctor.

Regarding a high carb diet, part of running lore is that runners should eat running shoe-sized portions of pasta for “energy.” True, complex carbs are a great source of slow-burning fuel. However, eating ONLY carbs will cause the person to be deficient in many essential nutrients, vitamins, minerals, not to mention protein building blocks for muscle.

Some authors (and sports bar companies) suggest a proportion of 40/30/30 (Carbs/protein/fat). Besides the fact that I could never be that precise in my eating, I am skeptical that that is the best balance. Personally, I would recommend a balance closer to 60/30/10, if you are in triathlon training. Ultimately, I would like you as triathletes to be

knowledgable in the different food groups, then experiment and find a balance that works for you. Also remember, these ratios do not cover fruits and vegetables. I *would* suggest to eat as much as possible of fruits and veggies, as these are low calorie-high nutrition.

While experimenting with kinds of foods to eat, also be conscious of overall calorie intake vs. output. When you are training hard you will be burning alot of calories, and will need to be sure to eat enough. At the same turn, many triathletes would benefit from obtaining a leaner body fat percentage. A competitive/elite male triathlete is likely to have body fat 5%, and females in the mid- to low teens. Assess yourself and determine if you have excess body fat. It is extra weight you will have to carry through the race.

Timing of eating

A relevant variable with nutrition is the timing of food intake. I personally prefer to graze. This involves eating food in small portions throughout the day. Absolutely, a triathlete should never, ever go anywhere without at least a granola bar or piece of fruit in your pocket. You never know when you are going to bonk, especially if you are training hard.

Timing before a workout ought to consider the activity. For extra hard workouts and running, it is a good idea to eat lightly or not at all. If you are going to ride, on the other hand, you may definitely eat a couple of pop tarts. Pre-workout eating is something that you should definitely experiment with, so you will know what you like on race day. Also try eating *during* workouts. For instance, I want you to eat between segments during class. For a race longer than an hour, you will probably want to drink a sports drink (e.g., gatorade) or even eat during the race.

Timing after a workout is crucial because it can affect recovery. The first 30-minutes after a workout (especially a hard one) your body is craving carbs to replenish spent stores. Eat SOMETHING (simple or complex carb) asap after a workout. In fact eating sugary simple carbs, such as candy, is better than not eating immediatly post workout, as far as recovery is concerned.

After the 30-minute window, your body will still remain in a state where protein and carbs are readily absorbed, up to two hours. Now I can't imagine going 2 hours after a workout without eating. Just make sure that you include some carbs AND protein, as there is a synergistic effect.

Hydration

The body's athletic performance begins to diminish around 2-3% dehydration. If you weigh 150 lbs, that is at 3 lbs weight loss. That is easy to reach if you are slacking off not drinking water. The best rule of thumb is to carry a Nalgene bottle or water bottle with you wherever you go. Remember that your body only absorbs water at a set rate, so frequent sipping is better than an hourly chug. Water enhances digestion, so drink during meals. Drink before, during, and after training. Drink before meals, before going to bed, and upon rising. Also practice drinking water or sports drink during training.