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## THEME: HEALTHY EATING

## Sustaining and Adhering to a Healthy Diet

by Shawn H. Dolan, Ph.D., R.D., CSSD

in the road. Second, making healthy food choices requires planning ahead and taking time to educate yourself on healthy food options. This also means making a commitment to spending more time preparing food rather than grabbing prepackaged food or eating out at a restaurant. Consider the following strategies to help you either begin or maintain healthy eating habits:

- **Cupboard cleanout.** Identify the foods you tend to overeat and keep these items out of your kitchen. In addition, minimize your exposure to less healthy food choices.
- **Don't restrict all foods all of the time.** There is a lot of scientific evidence to support that by restricting the body from certain items, you tend to compensate for what is missing. For example, if I always restrict sweet treats, I may over-eat other foods to make up for the sweet craving. Allow yourself a treat on occasion!
- **Inclusion vs. exclusion.** Focus on eating a variety of healthy foods you like rather than focusing on the less healthy foods you are trying to minimize.
- **Listen to your body.** When was the last time you recognized you were hungry? When was the last time you realized you were full and stopped eating? We lose track of these feelings and eat on schedules and continue eating past the point of being full.
- **Learn portion sizes.** Do you know the appropriate portion size for a serving of pasta? Of steak? Of cereal? Take the time to look at your normal servings of food and determine whether they are moderate or super-sized! See Table 1 for examples.
- **Choose to make physical activity a daily habit.** Schedule time in your day for physical activity, just as you do other meetings and engagements. In our society, physical activity is a necessity for health, not a luxury.
- **Don't fall for fad diets and quick fixes.** Make choosing healthy foods a lifestyle. Eating habits should not be a fad like the latest style of jeans!
- **Determine your motivation.** Ask yourself, "What motivates me to make healthy food choices?" Many external motivators (e.g., weight loss, get into a bathing suit) are not enough to maintain healthy eating... do it for you and your health! ➤

### Letter from the Editor

by Jeffrey A. Potteiger, Ph.D., FACSM

Welcome to the Winter 2007-08 issue of the ACSM Fit Society® Page. Many of us are active exercisers, but are forgetting a vital piece of the complete health and fitness picture: proper nutrition!

We'll look at healthy eating strategies, examine the benefits and drawbacks of diet soda, and explore how to stick to good nutrition habits. Use this issue to not only help control weight, but to develop eating habits that will lead to a healthier, longer life.

Remember to visit ACSM online at [www.acsm.org](http://www.acsm.org) for additional health and fitness information.

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Many people embark on new diets every day. The key to choosing a healthy diet lies in perspective. Once you decide to make healthy food choices a "habit" rather than "trying a new diet," you have taken the first step in the right direction.

The majority of people have trouble sticking to a diet. Often, people are dieting for a quick-fix or short-term goal like fitting into a wedding dress, going on a cruise, or getting in shape for bathing suit season! However, if you ask people who do not consider themselves "dieters," they will tell you, "It is just the way I eat; it is a habit." So the big question remains: How do I make healthy food choices part of my lifestyle rather than a temporary goal?

First, you have to accept the challenges that can accompany making healthy food choices. There are many tempting options at every fork

- **Avoid drinking lots of calories.** Think about the types of beverages you like. Which ones have calories? How many calories does the entire beverage contain? Check the label. Avoid high-calorie, sweetened beverages (fruit juices, whole-fat dairy, sweetened coffee with whipped cream, mixed alcoholic drinks with several mixers).
- **Frequency of eating out.** Limit the number of times you eat out per week (regardless of the type of restaurant). Count the times you currently eat out at a restaurant. Set a goal to decrease that amount.

**Table 1. Estimating your portion sizes.**

Dimension	Amount	Sample Serving
Closed fist (volume)	1 cup	2 servings of cooked or raw vegetables, pasta, cooked beans, cooked cereal; 1 serving of cereal
Palm of your hand (or deck of cards)	2 - 3 oz (100 g)	1 serving of cooked meat, of poultry, fish 1 serving of nuts, chips (covering the palm)
Finger length (diameter of tennis ball)	1 piece	1 serving of fruit (diameter)
Tip of your thumb	1 teaspoon	Spices, sugar, oil
Thumb (volume) (1 fl oz, 30 ml, 1 oz wt)	2 Tablespoons	1 serving of peanut butter 1/2 serving of cheese

Final notes: Don't try to incorporate all of these strategies at once. Choose one to work on. Once you have made progress in changing the behavior, check that strategy off and choose another. Keep this table in your daily planner or on the fridge. Congratulate yourself as you progress!

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**Q&A**

By Anthony Luke, M.D., MPH

**Q: I've been taking glucosamine and chondroitin sulfate for years now. Is it really doing anything for me?**

**A:** Glucosamine and chondroitin sulfate are building blocks that make up cartilage in joints. Both substances have been examined in many small studies with variable results. Among the most interesting studies were two that demonstrated significantly less X-ray changes in the knees over three years, although the difference was very small. With more recent research, there is less promise that these supplements have benefit. In a study published in the *New England Journal of Medicine* in 2006, researchers found that only a subgroup of patients who had moderate osteoarthritis had significant improvements compared with placebo. It is hard to explain why individuals with more or less osteoarthritis wouldn't benefit as well. Other studies similarly show minimal results. From the information so far, the advantage to taking these supplements is unclear. However, there appear to be no significant side effects to taking these substances.

**Q: What is the feeling about carbohydrate loading before a marathon? Is it still recommended?**

**A:** The previous practice of carbohydrate loading—when athletes would take in large amounts of carbohydrates several days before a big event to increase glycogen (energy) stores after having gone with less carbohydrate intake for a few days—has become less popular. Liver glycogen is the most important carbohydrate store for delaying exhaustion from energy depletion. With larger amounts of carbohydrate at least three days before the event (500 to 600 g/day), the body is supposed to load the liver with glycogen. However, the feeling now is that though recharging the glycogen loads beforehand more regularly is important, it does not guarantee that low sugar won't be a problem over a long race such as a marathon. Important points in managing fuel stores before a big race include making sure you do have a large carbohydrate meal the evening before to ensure that the fuel is available the next day and that carbohydrate be ingested during exercise greater than one hour. Liquid gels and energy bars are popular choices for fuel.

**Q: My doctor tells me I need to take calcium tablets and vitamin D as I had a stress fracture and I want to continue running now that it has healed. I don't like taking the tablets, though. What can I do?**

**A:** Calcium and vitamin D are important to building strong bones. For most women, 1,200 to 1,500 mg of calcium and 400 to 800 international units of vitamin D are recommended daily. While

(continued on page 7)

# Diet Medications and Supplements

by Bryan K. Smith Ph.D., CSCS, and  
Emily L. Van Walleghen, Ph.D.



At any given time, half of the U.S. adult population is attempting to lose weight, and in today's busy world, many Americans looking for a quick-fix are turning to diet pills. As a result, the diet medication and supplement industry has exploded in recent years, and there are currently nearly 200 different dietary aids on the market. While a few of these weight-loss aids have scientific merit and can be incorporated into a healthy weight loss program, most are no more than gimmicks that can have potentially dangerous health consequences.

## Medications

Medications differ from supplements in that they must be approved for use by the Food and Drug Administration (FDA), must undergo effectiveness and safety testing, and can only be obtained by a prescription. Currently there are only two medications approved by the FDA for the long-term treatment of obesity: orlistat and sibutramine. In early 2007, an orlistat-based product became the first weight-loss medication approved by the FDA for over-the-counter use.

## Orlistat

Orlistat promotes weight loss by preventing the absorption of fat during the digestion of food, effectively reducing caloric intake. A recent review reported that individuals randomized to orlistat lost an additional 5.9 lbs, or 2.9 percent of their body weight, when compared to a placebo group. Long-term studies indicate that weight regain is similar between those using orlistat and the placebo group. When compared to a control group, orlistat users report between 16 to 40 percent more side effects. Most of these side effects are gastrointestinal in nature and include fatty/oily stool, fecal urgency, and oily spotting.

## Sibutramine

Sibutramine promotes weight loss by suppressing appetite or enhancing satiety. A recent review reported that individuals using sibutramine lost an additional 9.5 lbs, or 4.6 percent of their body weight, when compared to a placebo group. Sibutramine appears to be effective during weight maintenance. A recent study reported that 27 percent more individuals using sibutramine were able to maintain 80 percent or more of their original weight loss when compared to the placebo group. The most reported side effect of sibutramine is an increase in blood pressure and heart rate. Other side effects include insomnia, dry mouth, nausea, and constipation.

## Dietary Supplements

Unlike medications, dietary supplements are not required to undergo testing and approval by the FDA. Because they are not FDA regulated, dietary supplements are more likely to not work as claimed and to have potentially dangerous side effects. Although there are many different categories of dietary supplements, two of the most popular types are stimulants and appetite suppressants. Other types of supplements are advertised to decrease body fat, block nutrient absorption, and increase fullness.

## Stimulants

Stimulants are intended to work by increasing metabolic rate and caloric expenditure. While one of the most popular stimulants, ephedra, was banned by the FDA in 2004 due to cardiovascular-related deaths resulting from its use, a number of other weight-loss stimulants are still available. These supplements, such as green tea, bitter orange, and guarana contain ephedra-like compounds or caffeine, which increase energy expenditure. When taken at the recommended doses, however, these supplements do not consistently affect body weight in human studies. Further, when taken at higher doses, these supplements may have dangerous side effects, including heart palpitations and tremors.

## Appetite Suppressants

By lessening the desire to eat, appetite suppressants are purported to decrease caloric intake. There are a number of appetite suppressants available, either individually or in combination with stimulants or other types of weight-loss supplements. One appetite suppressant that has recently become popular is Hoodia Gordonii, a plant native to Africa. Although it is claimed that pills containing compounds extracted from this plant can suppress appetite, the effectiveness of Hoodia is unproven and it may have unintended side effects, including liver damage.

## Other Dietary Supplements

There is no definitive scientific evidence that any type of dietary supplement on the market today is beneficial for body weight management, and more research is necessary before recommendations regarding the effectiveness and safety of these supplements can be made to consumers.

## Conclusions and Recommendations

There is more research-based evidence supporting the use of diet medications for weight management when compared to dietary supplements. However, this evidence does not imply that one can just take a pill and expect to lose weight or maintain weight loss. In research studies, these medications and supplements were used in conjunction with a low-calorie, low-fat diet and an exercise program. In addition, one must consider if the additional weight loss due to the diet aids is worth the potential side effects they may cause. Although many individuals would prefer to just take a pill, in most cases, we are better off following a healthy diet, practicing portion control, and exercising on a daily basis to manage our weight.

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# What is a Healthy Diet?

by Nancy Kennedy, M.S., R.D.



Every day we are bombarded with nutrition information in the media, on TV, at the drug store, the grocery store, and the local book store. Both experts and celebrities want to tell us their latest idea on what a healthy diet looks like. The word “healthy” itself means different things to different people. For the purpose of this article, a “healthy diet” is defined as a way of eating that will improve longevity, reduce the risk of chronic disease, and provide adequate energy so you can lead an active lifestyle and maintain a healthy weight.

## Energy

Energy, expressed in terms of calories, can only come from food. We do not get energy from vitamins, minerals or water. Energy comes from the three major nutrients: protein, fat and carbohydrate. To lead an active lifestyle, you need the right mixture of these three nutrients. The recommended dietary references intakes are 10-35 percent protein, 45-65 percent carbohydrate, and less than 20-35 percent fat.

## Balance

Think of an eight-inch plate, divided into four sections, like four pieces of pie (see diagram below). One section should contain fruit; one section vegetables; one section grains; and one section protein. Next, set a goal to eat at least three meals per day based on this healthy plate. If at first it seems like the volume of food is too large for one meal, save a part of the plate for a snack. For example, use the breakfast fruit and a protein for a strawberries-with-yogurt morning snack; use a lunch protein and a starch for a low-fat cheese-and-cracker afternoon snack. Suggested portions are indicated on the diagram but it is very important to read package labels because serving sizes can vary greatly within a category.

The “plate method” of meal planning incorporates guidelines from the USDA, the American Heart Association and the National Cancer Institute, so it is a great start to a long and healthy life. The emphasis is on grains, fruits, and vegetables because these foods provide energy, most of the vitamins and minerals we need, plant chemicals (called phytochemicals) that have powerful disease preventing capabilities, and fiber. The average person eats only 10-15 grams of fiber per day and a healthy diet should contain 25-35 grams. Fiber foods can lower cholesterol, help control blood sugar, lower blood pressure, keep bowels regular, reduce the risk of certain cancers, and help keep bones strong.

## Variety

For optimal fiber and nutrient intake, incorporate grain products that list the word “whole” as the first ingredient. Don’t be fooled by the words “multi-grain” or “contains whole grain,” as these products may not be high in fiber. Look at the fiber content on the label and aim for one gram of fiber for every 40 calories. Experiment with different grains such as barley and couscous.

For fruits and vegetables, pay attention to color. Every color is associated with a different phytochemical that can benefit your health. The more colorful your diet, the healthier it will be.

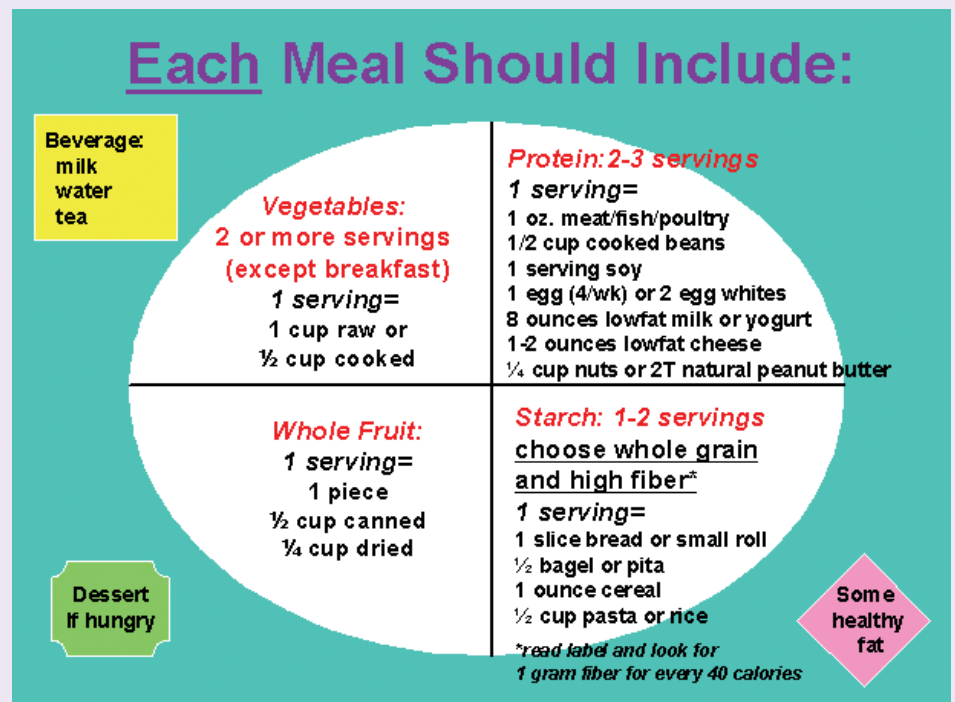
Protein is also important, not only for growth and repair of all the tissues in your body, but also to help reduce hunger between meals. The average American needs about 0.4 grams of protein per pound of body weight (1 gram per kilogram body weight). Most people eat

more than that but they place too much emphasis on animal proteins. Ideally, animal protein should be consumed at only one meal per day. Experiment with soy foods, bean dishes and nuts as your protein source. Legumes, which include dried beans, peas, and lentils, are also good sources of fiber. A healthy diet should contain at least one serving of legumes each day AND one serving of nuts. Nuts provide healthy fat and fiber in addition to protein. For animal protein, the best choice is fish of any type. For meat and poultry, choose lean cuts and trim off the visible fat.

## Moderation

The types of fat eaten as well as the amount are important. Fats that are hard at room temperature (think of meat fat, butter fat, coconut oil and hydrogenated or trans fats) tend to raise cholesterol and triglycerides and increase blood pressure and cancer risk. Omega 3 fats found in fatty fish, flaxseeds and walnuts have been shown to help with arthritis pain as well as heart disease and cancer prevention. They also seem to be effective in lowering blood pressure. Healthy monounsaturated fats like olive and canola oils can be used in cooking or salads. An average person only needs six teaspoons of fat per day.

Choosing to eat healthy is not always easy in our fast-food, fast-paced world, but it can be done! Take time for breakfast and explore new options for lunch and dinner. You will be rewarded with more energy and a much-improved quality of life. After all, that is what is most important.



# Diet Soda: Fewer Calories or More Health Risks?

by Haley N. Kirby, LAT



Everyone needs a little pick-me-up sometimes. Sometimes a caffeinated beverage seems like the easiest, fastest way. Why not satisfy your need for quick energy with a “zero points” drink – diet soda?

Diet soda is a popular drink among many health-conscious Americans; however, there may be several things to consider before running to the convenience store for your daily diet soda fix. There are some benefits and several side effects to think about when choosing something from the refrigerator.

There are few benefits that come with drinking diet soda. Compared to regular soda, there are fewer calories and smaller amounts of sugar. When watching your weight and trying to eat healthier, it's commonly thought that diet soda is a good substitute for regular soda. In contrast, several studies have found that drinking diet soda does not prevent expanding waistlines. Researchers discovered that if a person drinks one or more regular or diet sodas in a day, he or she is more likely to develop heart disease. In fact, some sources claim that there is a more than 40 percent increase in the risk of obesity with each can or bottle of diet soda a person drinks each day.

The key ingredient in diet soda that has been

in the spotlight for more than the past 20 years is called aspartame. Aspartame is an artificial sweetener that has been controversial due to its toxicity in high amounts. People suffering from PKU, a disorder that prevents the breakdown of the amino acid phenylalanine, are advised to curb their intake of diet soda because of the high content of the enzyme. Although the use of aspartame has been highly criticized for its side effects in high doses, the amount used in diet soda has been shown to be completely safe.

Another drawback to drinking diet soda while dieting and exercising involves calcium absorption. Diet soda contains high levels of phosphate. Drinking diet soda causes blood phosphate levels to rise. The large amounts of phosphates in the blood stream pull calcium out of the bones, thus putting a person at risk for osteoporosis, stress fractures, and numerous other injuries. Some studies state that the risk of suffering from a fracture or stress fracture is increased three to four times when a person includes diet soda in their daily diet.

Finally, and perhaps the most important side effect of diet soda, is its hindrance on hydration. Caffeine acts as a diuretic in the kidneys. This increases the production of urine, thus increasing the amount of water lost from the body. Dehydration is extremely dangerous and can cause a wide spectrum of problems ranging from dizziness and headache to racing heartbeats and even death.

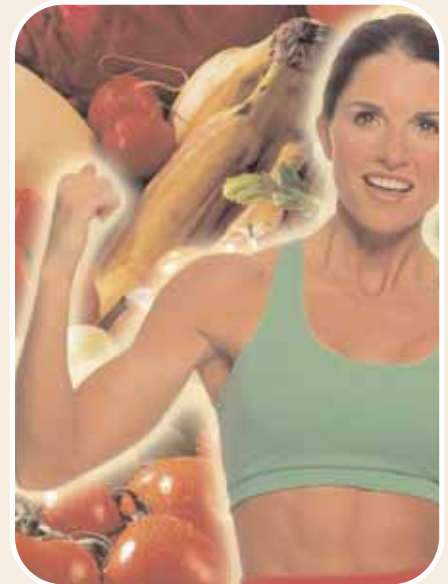
When dieting and exercise, you should drink plenty of fluids – water, not diet soda. Dehydration is the number-one cause of daytime fatigue. Your body is made up of around 60 percent water: your blood is 82 percent water, your muscles and bones are 75 percent water, and your bones are 25 percent water. It is important to maintain these high levels of water within the body so that it may perform at an optimal level.

It has also been suggested that by drinking at least five eight-ounce glasses of water per day, you can reduce the risk of colon cancer by 45 percent, breast cancer by 79 percent, and bladder cancer by 50 percent. If it is a grueling task to drink the recommended amount of water per day, a healthy alternative is mixing juice and water at a 1:1 ratio. This allows you to avoid many of the excess calories and sugars that some fruit juices contain. Sports drinks may be useful when exercising, but be aware of calories and take note of the amount of sodium.

Remember: Just because diet soda has zero calories and sugars, that does not mean it is the best drink for you to consume.

# Nutrition: Who needs it? If you're an athlete... you do!

by Jane LeBlond, MS, and  
Katherine Beals, Ph.D., R.D., FACSM



Carbohydrates, protein, and fat are all needed to fuel performance, repair and build lean muscle tissue, and protect against injury and illness. The Dietary Reference Intakes for normal adults specify a diet of 45 to 65 percent of total calories from carbohydrates, 10 to 35 percent protein and 20 to 35 percent fat.

Many athletes wonder if these same recommendations apply to them or if they require a separate set of unique recommendations. The answer is yes and no. The above ranges are broad enough to encompass the needs of most athletes. Nonetheless, many sport dietitians prefer to tailor carbohydrate, protein, and even fat recommendations to an athlete's body weight, thereby creating an absolute amount (i.e., a specific number of grams) as opposed to a relative amount (i.e., percent of total calories). Here are some general guidelines for formulating carbohydrate, protein, and fat recommendations for athletes.

## Carbohydrates

Carbohydrates are the body's primary source of energy, and are stored in the muscle and ➤

liver as glycogen. These glycogen stores provide fuel during moderate to intense exercise, and provide the brain with energy to focus and concentrate. Carbohydrate recommendations for athletes are typically formulated based on the athlete's body weight. Elite athletes (those in high-training college athletics, or professional or Olympic athletics) require seven to 10 grams per kilogram of body weight (approximately three to five grams per pound). For most recreational athletes, five to eight grams of carbohydrate per kilogram (approximately two to three grams per pound) per day is enough to replace and maintain muscle glycogen stores used during a workout or game. For example, a 150-pound runner training for a 10K would need to take in between 300 and 450 grams of carbohydrates per day. Good sources of carbohydrates include fruits and fruit juices, rice, cereals, potatoes, pasta, and bread. Choosing whole grains like oatmeal and brown rice will add fiber, B vitamins, and a little protein to your meal, while helping you feel full for longer.

Food Source	Grams of Carbohydrate
1 medium banana	27g
1 cup orange juice	26g
1 cup brown rice	45g
1 cup oatmeal	25g
1 medium potato	32g
1 cup pasta	40g
2 pieces whole wheat bread	26g

Carbohydrates also serve a critical role in exercise recovery. Eating or drinking a high-carbohydrate snack within an hour of exercising speeds recovery and prepares you for your next exercise session. Pack along a piece of fruit, some orange juice, or a granola bar when exercising away from home so you can refuel as soon after your workout as possible.

## Protein

Protein has many important functions in the body. In addition to building muscle and connective tissue, it supports the immune system and is used to make enzymes and hormones involved in energy metabolism. Protein requirements for athletes are higher than those of sedentary individuals, but not high enough to require protein supplements or shakes. Because of protein's relationship to lean body mass, protein requirements for athletes are formulated based on body weight. Most athletes need between 1.2-1.7 grams of protein per kilogram of body weight per day (approximately 0.5- 0.75 grams per pound) for muscle repair and maintenance. For example, a 175-pound body builder lifting weights four to five days per week would require about 1.4 grams of protein per kilogram body weight, or about 111 grams of protein per day. Watch out, though – eating more protein won't build

muscle faster. In fact, just the opposite could happen – excess protein may contribute to increased body fat. The reason? The body has a limit as to how much protein it needs, and if you exceed that limit, the excess protein will be converted to fat and stored on the body! Moreover, animal protein is also high in saturated fat and cholesterol; too much could lead to elevated blood lipid levels and increased heart disease risk. There is currently some disagreement over what the upper limit to protein intake is, but the bulk of the research suggests consuming no more than 1.8- 2.0 grams of protein per kilogram body weight per day. Good sources of protein are eggs, fish, lean meats, and low-fat or non-fat dairy products. In addition, including more plant sources of protein in your diet, such as soy, beans and legumes, may be beneficial as they are very low-fat, have no cholesterol, and are rich in folate and fiber.

Food Source	Protein (g)
1 egg	6g
1/2 can tuna	20g
4 oz steak	30g
1/2 cup cottage cheese	13g
1 cup soy milk	7g
1 oz almonds	6g
1/2 cup refried beans	7g

## Fat

Athletes often avoid dietary fats in an effort to keep body weight down, but some fats are actually good for us and have an important place in an athlete's diet. Saturated fat, which is mostly found in animal products and fried foods, and trans fats, which are found in processed baked goods and snack foods, both increase cholesterol and raise your risk of heart disease. However, unsaturated fats, especially the omega-3 fatty acids found in fish, can actually protect against chronic disease. These fats have been shown to help reduce inflammation, repair cell damage, and supply fat-soluble vitamins. Fat is also a valuable source of energy during prolonged physical activity of low-to-moderate intensity (*i.e.*, > three hours). Athletes should aim to consume about one gram of fat per kilogram body weight (approximately 0.45 grams per pound) per day. For example, a 115-pound swimmer should consume about 50g of fat per day. Good sources of healthy unsaturated fats include avocados, nuts, fish, and vegetable oils. Cold-water fish like salmon are the best source of omega-3 fats, but smaller amounts are also found in walnuts.

Food source	Fat type
1/2 medium avocado	11g, unsaturated fat
1 Tbsp walnuts	4g, unsaturated fat and omega-3
2 Tbsp peanut butter	16g, unsaturated fat
1 Tbsp olive oil	13g, unsaturated fat
4 oz. salmon	15g, unsaturated fat and omega-3

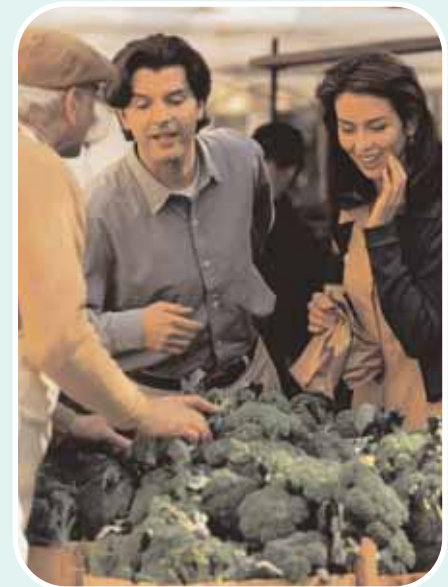
## Putting it all together

Meeting your nutritional needs as an athlete doesn't mean you need to stock up on special foods or supplements. Instead, choose nutrient-rich foods and include carbohydrates, proteins, and fats at every meal. Add two to three snacks between meals to supply a little extra protein and carbohydrate, and you'll be energized and ready for your next workout!

### THE ATHLETE'S KITCHEN

# Organic Foods for Athletes?

by Nancy Clark, MS, R.D., FACSM



Organic foods: Are they better, safer, more nutritious? That's what many active people want to know. After all, when you are training hard to enhance your performance, you might as well enhance your health at the same time—and that means eating wisely and well. Should eating organic foods be a part of your sports diet? This article addresses some questions athletes commonly ask about whether or not to go organic.

## The meaning of organic

To start, what does "organic" actually mean? Organic refers to the way farmers grow and process fruits, vegetables, grains, meat, poultry, eggs and dairy products. Only foods that are grown and processed according to USDA organic standards can be labeled "organic." (Note: The food label terms "natural," "hormone free," or "free-range" do not necessarily mean "organic.") Organic farming practices are designed to conserve soil

## Organic Foods (continued from page 6)

and water and to reduce pollution. For example, organic farmers do not use chemical fertilizers, insecticides or weed killers on crops. Nor do they use growth hormones, antibiotics and medications to enhance animal growth and prevent disease.

### Why go organic?

Organic fruits and vegetables can cost about 30 percent more than standard produce, if not more. If you are a hungry athlete who requires a lot of food, you might be wondering: Are organic products worth the extra cost? In terms of taste, some athletes claim organic foods taste better. Taste is subjective, and may relate to the fact that freshly grown foods have more flavor. In terms of nutrition, some research suggests organic foods may have slightly more minerals and antioxidants than conventionally grown counterparts, but the differences are insignificant. You could adjust for the difference by simply eating a larger portion of standard broccoli.

One important reason to buy organic—preferably locally grown organic—is to help sustain the earth and replenish its resources. Buying locally grown foods supports small farmers and helps them earn a better living from their farmland. Otherwise, farmers can easily be tempted to sell their land for house lots or industrial parks—eliminating more beautiful open green space.

Yet, if you buy organic foods from a large grocery store chain, you should think about the whole picture. Because organic fruits, for example, are in big demand, they may need to be transported for thousands of miles, say from California to Massachusetts. This transportation process consumes fuel, pollutes the air, and hinders the establishment of a better environment. Does this really fit the ideal vision of “organic?” The compromise is to buy locally grown produce whenever possible. To find the farm stands in your area, visit [www.localharvest.com](http://www.localharvest.com).

A second potential reason to choose organic relates to reducing the pesticide content in your body and the potential risk of cancer and birth defects. The Environmental Protection Agency has established standards that require a 100- to 1,000-fold margin of safety for pesticide residues. They have set limits based on scientific data that indicates a pesticide will not cause “unreasonable risk to human health.” According to Richard Bonanno, Ph.D., agricultural expert at University of Massachusetts-Amherst and a farmer himself, 65 to 75 percent of conventionally grown produce has no detectible pesticides. (When used properly and applied at the right times, pesticides degrade and become inert.) Results of testing vegetables from farms in

Massachusetts showed no pesticide residues in 100 percent of the samples. Bonanno reports only 0.5 percent of conventionally grown foods (but 3-4 percent of imported foods) are above EPA standards. A 2005 survey of 13,621 food samples revealed pesticide residue exceeding the tolerance was 0.2 percent.

Yet, watchdog groups such as Beyond Pesticides and the Environmental Working Group wave red flags and remind us, for example, that small amounts of pesticides can accumulate in the body. This may be of particular concern during vulnerable periods of growth, such as with young children.

### Conflicting values

Clearly, whether or not to buy organic foods becomes a matter of personal values. Bonanno sees “organic,” in part, as a marketing ploy, with organic foods portrayed as being safer and better. He argues we do not have a two-tier food system in the United States – with wealthier people who can afford to buy organic foods being the recipients of safer foods.

### Options

So, what's a hungry-but-poor athlete to do?

- Eat a variety of foods, to minimize exposure to a specific pesticide residue.
- Carefully wash and rinse fruits and vegetables under running water; this can remove 99 percent of any pesticide residue (depending on the food and the pesticide).
- Peel fruits, such as apples, potatoes, carrots and pears (even though that also means peeling off important nutrients).
- Remove the tops and outer portions of celery, lettuce and cabbage.
- Buy organic versions of the foods you eat most often, such as organic apples if you are a five-a-day apple eater.
- Sometimes (if not all the time), buy organic versions of the fruits and veggies that are known to have the highest pesticide residue, even after having been washed. According to the Environmental Working Group ([www.foodnews.org](http://www.foodnews.org)), the “dirty dozen” includes these fruits: apples, cherries, imported grapes, nectarines, peaches, pears, strawberries, red raspberries; and these vegetables: potato, bell peppers, celery, and spinach.
- Save money by choosing conventionally grown versions of the “clean dozen” (with little or no pesticide residue): banana, kiwi, pineapple, mango, papaya (note that foods like papaya, mango and banana have their own protective shell, so this reduces pesticide exposure on the flesh of the fruit); asparagus, avocado, broccoli, cauliflower, onion, sweet corn, and green peas. (For a complete list of 43 fruits and veggies, see

[www.foodnews.org](http://www.foodnews.org).)

When all is said and done, whether or not to make the extra shopping trip and pay the higher price is an individual decision.

### For additional information

- Agricultural Marketing Service of the US Department of Agriculture Pesticide Data Program ([www.ams.usda.gov/science/pdp](http://www.ams.usda.gov/science/pdp))
- Environmental Protection Agency (EPA) ([www.EPA.gov/pesticides](http://www.EPA.gov/pesticides))
- Environmental Working Group ([www.ewg.org](http://www.ewg.org), [www.foodnews.org](http://www.foodnews.org))
- Beyond Pesticides (formerly the National Commission Against the Misuse of Pesticides) ([www.beyondpesticides.org](http://www.beyondpesticides.org))



The American College of Sports Medicine recently partnered with the American Medical Association to announce Exercise is Medicine, a new initiative encouraging physicians to counsel patients about their exercise regimens at nearly every visit.

Learn more at [www.exerciseismedicine.org](http://www.exerciseismedicine.org).

### Q&A (continued from page 2)

calcium tablets have anywhere from 200 to 600 mg of calcium, only 20 to 40 percent of this is made available to the body. If you're not a fan of taking calcium and vitamin D in tablet form, chewable tablets and liquid forms are available. You can see different products in your local drug store. Getting calcium the natural way – through the diet – is great, but needs some dietary planning to get calcium-rich foods. Certainly, dairy products such as milk (1 cup ~ 300 mg), yogurt (1 cup ~ 415 mg) and even ice cream (1/2 cup ~ 90 mg) are obvious sources of calcium. However, calcium can also be found in green vegetables such as broccoli, collard greens and bok choy (160-357 mg). Calcium-fortified orange juice is another source (1 cup ~ 300 mg). Try to calculate how much calcium you're getting in your natural diet and decide whether you'd like to get more through your diet or supplement with a chew tablet instead. You can either crush your tablet or swallow the pill. Just make sure you don't take it with another food high in iron or fiber, which might affect your ability to absorb the calcium.