



# Nutrition

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# Soccer Nutrition: Fuel Your Body for Optimal Performance

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Our Bodies are like a finely tuned engine that needs to be fueled with the right mix of nutrients for optimal performance. This is especially important for soccer, where you are relying on your body for those sprints up the field and fast paced tackles. Foods are made up of food groups namely carbohydrates for energy, protein for growth and recovery, fats for energy and water for hydration. Not to mention vitamins and minerals for growth and many other of our body's functions.

Starting with carbohydrates, the most important fuel for contracting muscles in fact our body has its very own storeroom supply of this called glycogen in the muscles. Once the bloods supply is used up it will turn to this reserve to break down. Carbohydrates are found in bread, rice, pasta and cereals. Whole grain varieties of these are a better choice as they are broken down at a slower rate and will give longer lasting energy.

Next is protein found in meat, fish, beans, nuts and lentils. Protein is needed to repair and rebuild muscles that have been damaged during exercise, its important to note that you don't need to over do this. Fat is found in meat, butter, dairy, convenience food and oils. Try to choose monounsaturated fats such as olive oil or canola oil and eliminate trans fats. It will protect your heart and maintain healthy cholesterol levels.

You want to ensure that the meals you eat give you the most nutritional bang for your buck. A healthy meal should be made up of 2/3 whole grains, fruits and vegetables and 1/3 low fat meat, dairy, beans or other protein rich foods. Fast foods have very little nutritional value and in turn will hinder performance on the field. However they can be part of a healthy sports diet as an occasional treat. It is vital to fuel your body on a regular basis having 3 nutritious meals a day with snacks, make time for meals as they are just as vital as the training session.

A good meal plan would be:

**Breakfast:** wholegrain cereal, low fat milk and fruit

**Snack:** yogurt and granola

**Lunch:** wholegrain bread with tuna and a glass of milk

**Supper:** chicken, potato and greens

On a final note focus on getting enough water for hydration, to find out how much water you need weigh yourself before and after the match for every pound lost you need at least 16-24oz of water. This is especially important in hot weather where you lose a lot of water through your sweat and have a higher chance of becoming dehydrated.

Also make sure you are getting enough iron found in red meats and iron fortified cereal to prevent anemia, often common in female athletes. Anemia will cause fatigue and hinder your ability to play. Try to drink orange juice or have vegetables rich in vitamin C with meals to aid iron absorption. Have a sensible pre workout snack like a peanut butter sandwich and re fuel afterwards some good choices would be a fruit smoothie, sandwich, chocolate milk or cereal and milk to replenish glycogen stores and protein for tired muscles.

Finally consider consulting a dietitian to give you tailor made advice to get the most out of your game.

# How to Build Muscle - Building bigger, stronger muscles depends on three factors: heredity, exercise, and your diet.

## Why Build Up Your Muscles?

Building bigger, stronger muscles depends on three factors: heredity, exercise, and your diet.

In contact sports like wrestling and football, only the strong survive. Stronger muscles can improve your performance in any sport. For example, stronger muscles can increase your speed when running, your force when throwing or hitting a ball, and your endurance in any athletic event. So all athletes, male or female, can benefit from stronger muscles. The size and strength of your muscles depend on three factors: heredity, exercise, and diet.

### HEREDITY

Everyone is born with a slightly different combination of three types of muscle fibers.

- Fast-twitch fibers work rapidly but tire quickly.
- Slow-twitch fibers don't work as fast, but they have greater endurance.
- Intermediate-twitch fibers produce more power than slow-twitch but can be trained to have high aerobic capacity.

Athletes with more fast-twitch fibers than slow tend to be better sprinters. Those with more slow-twitch fibers than fast are better in marathons. There's nothing you can do to change his. However, you can increase the size and strength of the muscle fibers you've inherited.

### EXERCISE

Exercise can build larger, stronger muscles. Muscles building depends on three basic principles; specificity, overload, and progression.

- Specificity--to develop a specific muscle, it must be exercised.
- Overload--to strengthen a muscle, it must work more than normal.
- Progression--the work load must be increased gradually.

**Let's say you want to develop stronger biceps.**

- To develop your biceps, do exercises like the barbell curl (specificity). Warm up with a light weight (about half the weight you can lift correctly).
- Using the barbell curl, start with a weight you can lift correctly 10 times. Try to do three sets of these during a workout.
- Once you can do three sets of 10 correctly in a workout, increase the weight by five pounds (overload).
- Repeat the same steps until you can lift the new weight for three sets of 10. Then add five more pounds. As you get stronger, gradually increase the weight of the barbells (progression).

- Over a four-week period, exercising three times a week, you should see noticeable improvements in the strength of your biceps.
- Don't try to lift weights every day. Rest one day between workouts to give your muscles time to grow.

Specificity, overload, and progression can be used to develop other muscles too. These principles can be applied to activities other than weight lifting, such as running to increase leg strength.

## Diet

In addition to exercise, your muscles need a nutritionally adequate diet. A nutritionally adequate diet includes a wide variety of foods from the Five Food Groups (Milk, Meat, Vegetable, Fruit, and Grain). This diet supplies your body with all the nutrients you need for top performance.

Despite popular opinion, you do not need large amounts of protein to build muscles. Your muscles are only 22 percent protein and more than 70 percent water. A growing athlete only needs about 1/2 to 1 gram of protein for each pound of body weight. So an athlete who weighs 150 pounds needs about 75 grams of protein.

The following sample menu is nutritionally adequate and supplies more than enough protein for muscle building.

<b>Morning:</b>	<b>Grams of protein</b>
3/4 cup orange juice	1
1 egg	6
1 bagel	8
1 cup fruit yogurt	9
<b>Noon:</b>	
3 oz. hamburger	20
1 1/2 oz. American cheese	9
hamburger bun	4
tomato	1
coleslaw	1
pear	1
<b>Evening:</b>	
3 oz. pork chop	25
baked potato	5
tossed salad	1
1/2 cup green peas	4
3 dinner rolls	6
1 cup milk	8
<b>Snack:</b>	
1 oz. cornflakes	2
banana	1
1 cup milk	8
<b>Total:</b>	<b>120</b>

When you eat more protein than your body needs, your body does one of two things. It either uses the excess protein for energy or turns it to fat. Excess protein does not turn into muscle. So extra protein does not improve your performance. In addition, high-protein diets increase your body's water requirement.

### What About Steroids?

Some body builders take steroids in the hope of developing huge muscles. However, steroids can be dangerous. The American Medical Association and the American College of Sports Medicine do not recommend using them. Steroids have been banned by the International Olympic Committee.

These drugs can stunt your growth, cause acne, deepen your voice, and alter your sex organs. Some of these side effects can be permanent. You can make the same gains with diet and exercise. Although it takes longer, you're not risking your health.



# How to Gain Weight - To gain weight, increase your food intake by 2,500 Calories for each pound you want to add.

## Why Gain Weight?

To gain weight, increase your food intake by 2,500 Calories for each pound you want to add.

In some sports, like football and hockey, a few extra pounds can come in handy. In other sports, athletes who are underweight may not have enough energy to work at their peak performance. In other sports, some athletes may have trouble just maintaining their normal weight.

## What Should You Eat To Gain Weight?

To gain weight, you have to take in more calories than your body burns. You do this by eating more food. But even then, gaining weight may not be easy for some athletes. If you're training hard, you may burn everything you eat and then some.

To gain a pound of muscle, you need to eat 2,500 Calories more than your body uses. You can realistically gain about one to two pounds in a week. That comes down to eating 350 to 700 Calories extra every day.

The following diet for gaining weight can supply those extra calories. Eat at least these recommended servings every day.

<b>Milk Group</b>	
(milk, cheese, yogurt, cottage cheese, ice cream)	4 or more servings
<b>Meat Group</b>	
(meat, fish, poultry, eggs, dried beans and peas, nuts)	3 or more servings
<b>Vegetable Group</b>	
(fresh, frozen, canned, juiced vegetables)	6 or more servings
<b>Fruit Group</b>	
(fresh, frozen, canned, dried, juiced fruits)	4 or more servings
<b>Grain Group</b>	
(cereals, breads, rolls, pasta, muffins, pancakes, grits, rice)	16 or more servings

## How Do You Go About It?

There are several ways to increase the number of calories you eat. You can:

- ▶ Eat larger portions at meals.
- ▶ Eat more meals each day.
- ▶ Have snacks between meals.

You can also increase your calories by substituting high-calorie foods for lower-calorie ones. Be aware, however, that only some high-calorie foods are nutrient-rich. Others, unfortunately are low in nutrients. It's important to supply your body with all the nutrients it needs. The following foods are rich in both calories and nutrients:

- ▶ Nuts
- ▶ Dried fruits
- ▶ Shakes and malts
- ▶ Cheese
- ▶ Sandwiches
- ▶ Pizza

Foods that are high in calories but low in nutrients also can play a role in a weight-gain diet. But you should eat these foods in addition to, not instead of, adequate amounts of nutrient-rich foods. Some high-calorie, low-nutrient foods are:

- ▶ Soft drinks
- ▶ Salty snack foods, like chips
- ▶ Cakes, pies, cookies
- ▶ Doughnuts, sweet rolls
- ▶ Jams, jellies, syrups

### Gaining Muscle instead of Fat

To put on muscle, you need to exercise as well as eat more. If you eat more and don't exercise, you'll just gain fat. To make sure those extra calories become muscle, you must exercise. Heavy muscular work-outs, like strength training, will use the extra calories to stimulate muscle cells to grow.

### How Can You Measure Muscle Gain?

A scale will tell you how much weight you've gained. But it can't tell you whether that weight is muscle or fat.

To find out which you've gained, measure your body fat before you start your weight-gain program. If you've gained fat, you'll see an increase in the percent body fat. If you've gained muscle, you'll see either a decrease in percent body fat or no change.





# **How to Lose Weight - Reduce your calorie intake or increase your calorie usage by 3,500 Calories for each pound you want to lose.**

## **Why Lose Weight?**

Reduce your calorie intake or increase your calorie usage by 3,500 Calories for each pound you want to lose.

Imagine having to carry a 10-pound weight wherever you go, all day long. At first, it may be no problem. But in time, those 10 pounds will slow you down. In the same way, excess weight can be hurting your performance.

## **Are You Overfat?**

There's a difference between being overweight and being over fat. Some people, especially athletes, may weigh more than height/weight charts recommend. So, technically, they're overweight. But if that additional weight is from muscle, the person is not over fat. So there's no need to lose weight.

Some experts recommend 14-17% body fat for men and 21-24% body fat for women. Other experts have recommended that well-conditioned male athletes have 7-8% body fat and female athletes have 17-18% body fat. Actually, the percent of body fat needed for best performance varies with the individual and the sport.

## **How Can You Lose Fat?**

It's possible to safely lose 1/2-1 pound of body fat a week. If you lose weight any faster than that, you may begin to lose muscle too. For each pound of fat you want to lose, you have to cut 3,500 Calories. You can do this with diet and/or exercise.

For an athlete, diet alone is not a good way to take off pounds. Eating less than 2,000 Calories means you won't get the energy you need for training and competition. In short, your performance may suffer.

Losing weight through exercise alone involves increasing your activity level above and beyond your normal routine. Athletes who already spend one to two hours a day in training may have a hard time adding much more exercise to their schedule.

The fastest (and easiest) way to lose weight is with a combination of diet and exercise. If you eat 250 Calories less and exercise 250 Calories more, you have 500 Calories less each day. At that rate, you could lose one pound in a week.

## **How Many Calories Do You Need?**

Scientists recommend the following caloric intakes for normally active people (light or sedentary work). If you're an athlete in training, you may be able to eat more because you are burning up more energy.

## ENERGY NEEDS FOR NORMALLY ACTIVE PEOPLE (calories a day)

Age	For weight maintenance	For weight loss
<b>MALES</b>		
11-14	2500	2000
15-18	3000	2500
19-24	2900	2400
25-50	2900	2400
<b>FEMALES</b>		
11-14	2200	1700
15-18	2200	1700
19-24	2200	1700
25-50	2200	1700

Off season, follow the Basic Diet, which supplies about 1,500 Calories for adults and 1,800 Calories for teens. If you're in training, use the Modified Training Diet which supplies about 2,000 Calories. By limiting yourself to the minimum number of servings and choosing low-calorie foods, you can get all the nutrients you need and still lose weight.

### Is There a Fast Way to Lose Weight?

There are many diets that promise quick weight loss. Usually the pounds lost are from water loss--not fat loss. If you're really interested in losing weight and keeping it off, reduce your caloric intake and/or increase your caloric usage. That way you'll lose weight by losing fat.



# What You Need to Know about a Training Diet - During a two-hour workout, you can easily use up all your stored energy.

## Why is Carbohydrate Important for Performance?

Eat a diet high in carbohydrate throughout the season for energy to train and to compete.

Fatigue is common after hard physical training day-after-day. When you work out twice a day it can get worse. You might blame your exhaustion on a "bad day". But if you are always tired, your diet might be the problem.

When you exercise, you use energy stored as carbohydrate in your muscles. During a two-hour workout, you can easily use up all your stored energy. It is important that you replenish the carbohydrate level in your muscles for the next day's training. You do this by eating enough foods high in carbohydrate.

Suppose you eat a diet low in carbohydrate. After just three days of two-hour workouts, you use up nearly all of your muscle carbohydrate. You are a candidate for fatigue. However, on a high-carbohydrate diet after the same workouts, your muscle carbohydrate level can be almost as high as it was before you began training. In that way, you can have the energy to train and compete at your top performance.

## Planning the Training Diet

What's the difference between the training diet and your normal diet?

The training diet is probably higher in carbohydrate. The training diet includes more foods from the Grain Group, Vegetable Group, and Fruit Group. Of course, you still need protein, fat, vitamins, minerals, and water in your diet. You get these nutrients, as well as carbohydrate, by eating a variety of foods from each of the Five Food Groups (Milk, Meat, Vegetable, Fruit and Grain).

**When planning a high-carbohydrate diet, remember:**

- Cereals, breads, pasta, muffins, pancakes, rolls, and other grain products are high in carbohydrate.
- All fruits and vegetables are also good sources of carbohydrate.
- Yogurt, milkshakes, milk, cocoa, and ice cream all contain carbohydrate.
- Most foods from the Meat Group are low in carbohydrate except for dried beans and peas (like refried beans or black-eyed peas).
- Cakes, pies, cookies, soft drinks, and other sugary foods are high carbohydrate. However, they are low in most other nutrients. Select them only after you've eaten the recommended number of servings from the Five Food Groups. Each day eat at least the recommended number of servings from the Five Food Groups listed in the chart below:

## RECOMMENDED SERVINGS

	<b>Training Diet (550-650 g of carbs)</b>	<b>Modified Training Diet (250-350 g of carbs)</b>
Milk Group	4 or more	4 or more
Meat Group	3 or more	2 or more
Vegetable Group	6 or more	5 or more
Fruit Group	4 or more	3 or more
Grain Group	16 or more	8 or more



# What You Need to Know about Pre-Competition Meals - No foods, not even high-carbohydrate foods, should be eaten in the hour before competition.

## Why the Pre-Competition Meal?

The purpose of the pre-competition meal is to avoid hunger before and during the event. This meal helps you stay physically comfortable and mentally alert. If the meal is eaten at least six hours before the event and follows an overnight fast, the meal can raise blood glucose levels and liver glycogen.

## What to include in the Pre-Competition Meal?

Your pre-competition meal should include several high-carbohydrate foods. These foods take the least time to pass through your stomach. Most foods from the Vegetable Group, Fruit Group, and Grain Group are excellent sources of carbohydrate.

High-protein foods like low fat dairy foods and lean meats (tuna; baked ham; broiled, skinless chicken), may be safely included in your pre-competition meal. However, eat them in moderate portions.

### Before competition avoid:

- Higher-fat foods like hamburger, sausage, lunch meats, and peanut butter.
- Fried foods like doughnuts, chips, French fries, and fried fish or chicken.
- Fats like mayonnaise and salad dressings.

Because these foods are higher in fat, they take the longest time to pass through the stomach. Foods that remain in the stomach during competition may cause indigestion, nausea, and even vomiting. If you include any of these foods in your pre-competition meal, eat them in small amounts.

## High-Carbohydrate Foods

Be sure to include several high-carbohydrate foods in your pre-competition meal. The following foods are good sources of carbohydrate.

### Milk Group

Low fat chocolate milk, Ice milk, Low fat frozen yogurt, Skim milk, Low fat milk, Low fat yogurt.

### Meat Group

Black eyed peas, Pinto beans, Navy beans, Refried beans.

### Vegetable Group

Corn, Potatoes, Peas, (baked, boiled, or mashed), Sweet potatoes.

### **Fruit Group**

Apples, Oranges, Bananas, Pears, Grapes, Raisins.

### **Grain Group**

Bagel, Pasta, Cornflakes, Pita bread, English muffin, Raisin bran, Hard Roll, Rice, Oatmeal, Whole wheat bread.

## **Some Sample Pre-Competition Meals**

These sample pre-competition meals include plenty of high-carbohydrate foods.

### **Sample Meal #1:**

Orange juice, cornflakes with a sliced banana, whole wheat toast with jelly, and skim milk.

### **Sample Meal #2:**

Vegetable soup, chicken sandwich on wheat bread, applesauce, and low fat strawberry yogurt.

### **Sample Meal #3:**

Julienne salad (lettuce and other fresh vegetables with thin strips of cheese and turkey), a hard roll, frozen yogurt, and grape juice.

## **When Should You Eat the Pre-Competition Meal?**

The pre-competition meal should be eaten one to four hours before the game. No foods, not even high-carbohydrate foods, should be eaten in the hour before competition.

The only thing you should have right before competition is plenty of cool fluid so you don't overheat.

### **4 HOURS BEFORE PRACTICE OR THE GAME.**

Choose a high-carbohydrate meal from the foods above.

Aim for one that supplies 8 calories for each pound you weigh.

\_\_\_\_\_ x 8 = \_\_\_\_\_

Your weight                  calories for the meal

Circle the foods you choose in red. Be sure to include something from each food group.

Aim for around 120-250 grams of carbohydrate (CHO) (depending on your weight).

### **1 1/2 HOURS BEFORE PRACTICE OR THE GAME.**

If your hungry, choose a light snack. That way, you will avoid indigestion and nausea.

Pick a snack that supplies about 2 Calories per pound you weigh.

\_\_\_\_\_ x 2 = \_\_\_\_\_

your weight                  calories for the snack

circle the foods you choose in blue. Try for around 30-60 grams of carbohydrate (depending on your weight).

**LESS THAN AN HOUR BEFORE PRACTICE OF THE GAME.**

Don't eat anything. Make sure to drink 1 1/2 cups (12 oz.) of water or a sports drink 10-15 minutes before exercise.

**DURING PRACTICE OR THE GAME.**

Drink 1/2 cup of cool water or sports drink every 10-15 minutes during practice or competition.



# How to Carbohydrate Load - Carbohydrate is the main fuel a soccer player uses during exercise.

## What is Carbohydrate Loading?

Carbohydrate is the main fuel a soccer player uses during exercise. Carbohydrate loading includes a special diet and training program. By carbohydrate loading, you temporarily trick your body into storing as much as two times the normal amount of carbohydrate in your muscles. This can be helpful for endurance athletes.

## Who Should Carbohydrate Load?

Normally your muscles can store only enough carbohydrate to keep the body moving for about two hours. So athletes competing in events lasting more than 1 1/2 hours may benefit from carbohydrate loading. Carbohydrate loading may help in: cross-country skiing, distance running, distance swimming, long-distance cycling, soccer, triathlons, and tournament tennis.

Carbohydrate loading offers no advantage to athletes in short events. (like sprints) or stop-and-start events such as volleyball, football, or basketball.

## How do you Carbohydrate Load?

Carbohydrate loading is a training and diet plan that last six days. The training portion has three parts:

- A long, hard training session that lowers the carbohydrate in your muscles six days before competition.
- Four days of tapered training--where you cut back your workouts to one-half to one-fourth of your usual time.
- One day of rest to allow your muscles to store carbohydrate.

### The diet has two parts:

- The Modified Training Diet is eaten on the day of the long, hard training and during the next two days of moderate training.
- The Carbohydrate Loading Diet is eaten for three days before the event.

## How does Carbohydrate Loading Work?

The three days of training combined with the Modified Training Diet use up the carbohydrate stores in the muscles. Next you take a rest from training and start eating the Carbohydrate Loading Diet. This will help you store as much as two times more carbohydrate than normal in your muscles.

Carbohydrate loading depends on working the training and diet schedules together correctly.



## CARBOHYDRATE LOADING PLAN

Day	Training	Diet
6	90 minutes	Modified Training Diet
5	40 minutes	Modified Training Diet
4	40 minutes	Modified Training Diet
3	20 minutes	Carbohydrate Loading Diet
2	20 minutes	Carbohydrate Loading Diet
1	Rest	Carbohydrate Loading Diet
0	Competition	Pre-competition meal

### Are there any problems with Carbohydrate Loading?

You will gain weight. This is due to water being held in the muscle with the extra carbohydrate. The weight gain may vary. (You can "see" if you're storing carbohydrate by weighing yourself while carbohydrate loading).

### REMEMBER

Carbohydrate loading will only benefit athletes in endurance events lasting 90 minutes or longer.



# What You Need to Know about Sports Nutrition Myths - No food, drug, or nutrients can quickly build muscles, increase speed, or improve endurance.

No food, drug, or nutrients can quickly build muscles, increase speed, or improve endurance.

Serious athletes are always looking for ways to improve their performance. Unfortunately, many athletes want to improve themselves so much that they will try almost anything. They may be fooled by foods, drugs, or nutrients that promise miraculous improvement. Athletes may also listen to inaccurate advice and may avoid eating some foods that really are nutritious. Athletes should beware of the following sports nutrition myths.

## Muscle Building Myths

The more protein and protein supplements you eat, the more muscle you will have.

**INCORRECT.** There is no evidence that excess protein will lead to more or stronger muscles. In fact, excess protein is stored by the body as fat.

Steroids are the best way to develop massive muscles.

**INCORRECT.** Steroids can be dangerous. While steroids are powerful drugs that help build muscle, they have many risky side effects. Taking steroids can stunt your growth, cause acne, deepen your voice, and alter your sex organs. You can build muscle with diet and exercise. Although it takes a little longer, you're not risking your health.

## Quick-Energy Myths

Eating honey, sugar, soft drinks, or any sweets just before competition will provide a burst of quick energy.

**INCORRECT.** Sugary foods eaten just before competition do not improve your speed or strength. That's because it takes the body one to four hours to digest food. So foods eaten just before an event are in your stomach when you compete. Most of the energy used in competition or practice comes from food eaten days before the event that has been stored in your muscles.

Vitamin supplements will give you more energy.

**INCORRECT.** None of the 14 known vitamins supplies energy. Some vitamins help the body use energy. However, these vitamins are easily supplied by an athlete's normal diet. Megadoses of vitamins won't give you more energy or improve your endurance.

If you consume more vitamin C or B vitamins than your body needs, they are simply flushed out in your urine. If you consume more vitamins A and D than you need, they are stored in your fat. Too much of these vitamins can be poisonous.

## Performance Myths

Water during exercise causes upset stomach and slows you down.

**INCORRECT.** There is no evidence that drinking water during exercise causes upset stomach or any other problems. In fact, drinking fluids during exercise is very important. Drinking 1/2 cup of fluid such as cool water every 10-15 minutes during exercise helps replace body fluids lost as sweat.

Drinking milk causes cotton mouth.

**INCORRECT.** Cotton mouth is dry mouth due to lack of saliva. It seems to be the result of emotional stress and a loss of body fluids, not drinking milk.

Muscle cramps are caused by inadequate salt intake.

**INCORRECT.** Cramps are caused by severe losses of water through sweating. Drinking water before, during, and after exercise can prevent these water losses. Salt tablets can aggravate this condition by increasing the body's need for water.

Special supplements such as amino acids, bee pollen, ginseng, brewer's yeast and DNA improve athletic performance.

**INCORRECT.** There is no evidence that any of these substances improve athletic performance. Most of these items are expensive. Some may even be harmful to both performance and health.

Athletic success is not a miracle. It is the result of talent, hard training, and plenty of preparation before competition. Athletes who look for miracles instead of following a sensible diet and training program can hurt their bodies and their performance.



# **What You Need to Know about Fluids - Water makes up 60 percent of your total body weight and 70 percent of your muscles.**

## **What Does Water Do For You?**

Water is an important nutrient for athletes. Water makes up 60 percent of your total body weight and 70 percent of your muscles. Without enough water, you can't work at your top level of performance and you may even harm yourself.

Water cools your body. As you exercise, your body temperature increased (even when it's cold outside). As your temperature increases, you sweat. When the sweat evaporates from your skin, your body cools down.

## **What Happens Without Water?**

Dehydration. If you start exercising without having enough water in your body, or if you sweat during practice and do not replace the water lost, you may become dehydrated. You can become dehydrated even when you lose just a few pounds as sweat. Once you become dehydrated, you can no longer sweat and get rid of the heat that builds up in your body.

Dehydration can be dangerous. The first symptoms of dehydration include thirst, chills, clammy skin, throbbing heartbeat, and nausea. When you become more dehydrated, you may develop a headache, cramps, and shortness of breath, dizziness, and/or dryness in the mouth.

At the most serious level of dehydration, you can experience hallucinations, deafness, visual problems, swollen tongue, and/or kidney failure.

## **How Can You Avoid Dehydration?**

- Drink plenty of cool fluids before, during, and after practice and competition. Even if you don't feel thirsty.
- Drink 1 to 1 1/2 cups of cool fluid 15 minutes before competition or practice.
- Drink 1/2 cup of fluid every 10-15 minutes during the event.
- Don't rely on thirst alone as a guide to how much water your body needs. Weigh yourself before and after exercising. For every pound lost as sweat, drink two cups of fluid.
- Avoid salt tablets. Too much salt increases your body's water needs. Salt tablets can also irritate your stomach and cause nausea.
- Avoid working out in plastic or rubber suits. They can cause serious dehydration, limit your performance, and lead to heat exhaustion and heat stroke.

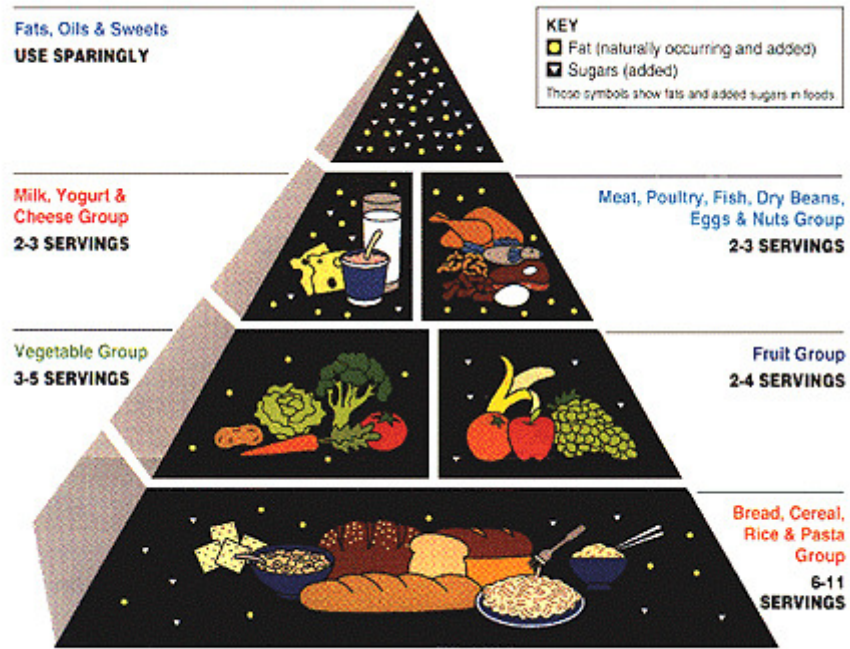
## What Happens If Your Sweat Doesn't Evaporate?

For your body to cool down, two things must occur. You must sweat and the sweat must evaporate from your skin. If the sweat doesn't evaporate quickly enough to cool your body down, you can become overheated. This can happen when the weather is hot and humid or when you are wearing heavy gear. You can avoid problems by following these tips when exercising during hot, humid weather:

- Exercise at the coolest time of the day--early morning or late evening. Avoid the middle of the day when the temperature is usually the highest. If you must practice then, build up your tolerance to heat by working out for a short time each day. Gradually increase the length of each workout.
- Wear the lightest clothing and equipment you can. Mesh jerseys, lightweight shorts, and low-cut socks allow more sweat to evaporate than sweat suits and heavy gear.
- Drink plenty of water before, during, and after practice and competition.
- When you exercise in cold weather, your body still sweats. To keep warm and still allow the sweat to evaporate, wear several layers of loose clothing. Layers of clothing will trap the warmth from your body while absorbing your sweat. If you become too warm, a layer can be removed and remember; drink water even in cold weather.



# The Food Pyramid



Courtesy the U.S. Department of Agriculture and the U.S. Department of Health and Human Services or USDA and DHHS.