

# Water - Hydration

## Water Basics

Water is one of the most essential components of the human body. Water regulates the body's temperature, cushions and protects vital organs, and aids the digestive system. Water not only composes 75 percent of all muscle tissue and about 10 percent of fatty tissue, it also acts within each cell to transport nutrients and dispel waste. And, because water composes more than half of the human body, it is impossible to sustain life for more than a week without it.

## Water Loss

Necessary to the healthy function of all internal organs, water must be consumed to replace the amount lost each day during basic activities. In 2004 the Food and Nutrition Board released new dietary reference intakes for water. It is recommended that women consume 2.7 liters (91 oz) daily and men consume 3.7 liters (125 oz) through various beverages (80%) or in food (20%). Active individuals need even more, particularly if they're exercising in hot weather. This is especially important during the 24 hours prior to vigorous exercise. You can meet your body's water needs over the course of a day through a variety of fluids and foods including juices, soda, smoothies, tea, lemonade, soups, fruits and vegetables.

In one hour of exercise the body can lose more than a quart of water, depending on exercise intensity and air temperature. If there is not enough water for the body to cool itself through perspiration, the body enters a state of dehydration.

## Dehydration

For regular exercisers maintaining a constant supply of water in the body is essential to performance. Dehydration leads to muscle fatigue and loss of coordination. Even small amounts of water loss may hinder athletic performance.

In a dehydrated state the body is unable to cool itself efficiently, leading to heat exhaustion and possibly heat stroke. Without an adequate supply of water the body will lack energy and muscles may develop cramps.

To prevent dehydration, exercisers must drink before, during and after the workout.

## Fluid Balance and Replenishment

It is important to drink even before signs of thirst appear. Thirst is a signal that your body is already on the way to dehydration. It is important to drink more than thirst demands and to continue to drink throughout the day. One way to check your hydration level is to monitor your urine. It should be plentiful and pale yellow unless you are taking supplements, which will darken the color for several hours after consumption.

During exercise, water is the best fluid replenisher for most individuals, although sports drinks help replace lost electrolytes during high-intensity exercise exceeding 45 to 60 minutes.

Individuals who sweat profusely during exercise and whose sweat contains a high amount of sodium (you may notice salt stains/rings on your athletic wear) should choose sports drinks and ensure that their diet contains adequate sodium to prevent hyponatremia (water intoxication). Contrary to popular belief, scientific evidence suggests that moderate caffeine intake does NOT compromise exercise performance or hydration status. However, alcohol consumption can interfere with muscle recovery from exercise and negatively affect a variety of performance variables.

It is easy to prevent dehydration with a variety of refreshing beverages, so drink up!

## Hydration Hints

- Drink 17-20 ounces of water two to three hours before the start of exercise.
- Drink 8 ounces of fluid 20 to 30 minutes prior to exercise or during warm-up.
- Drink 7-10 ounces of fluid every 10 to 20 minutes during exercise.
- Drink an additional 8 ounces of fluid within 30 minutes after exercising.
- Drink 16-24 ounces of fluid for every pound of body weight lost after exercise.
- Hint: Rehydration occurs faster in the presence of sodium, regardless of whether this is provided in a sports drink.