

SPORTS NUTRITION TOPICS

HYDRATION GUIDELINES

Everyone knows the adage—you can go longer without food than water. Yes, this true! Water is one of our body's 6 essential nutrients. It is very essential because our body does not have the capacity to store water in significant volumes. So, we need to consume adequate fluids daily to hydrate every cell in our body.

Generally, the human body is made up of 50 to 75 percent water. Water forms the basis of blood, digestive juices, urine & perspiration, and water is contained in lean muscle, fat and bones. The amount we need depends on our body size, metabolism, the weather, the food we eat and our activity levels.

When evaluating your fluid requirements, there are two things to consider: the fluid required for your general body needs PLUS the additional fluid needed for your training.

Before Exercise:

All athletes should start their exercise well hydrated. Athletes should drink 16-24 fl.oz. of water within the 2 hours prior to training. At 10-20 minutes prior to exercise consume another 7-10 fl.oz. of water.

During Exercise:

All athletes should consume approximately 6-12 fl.oz. every 10-20 minutes throughout their training. Drink beyond your thirst!

After Exercise:

It is recommended for athletes to record their weight before and after training. This is especially true in hot & humid conditions, in extreme cold weather training, for individuals with a high sweat rate, as well as high altitude. These variables can increase one's rate of water loss during training.

Athletes should replace every 1# loss in weight with 16-24 fl.oz. of water. The total fluid consumed should be focused within 2 hours post-training, however fully consumed within 6 hours.

*To keep the body in
good health is a duty...
otherwise we shall not
be able to keep our
mind strong and clear.*

~Buddha



Did You Know?

A mere 2% drop in our body's water supply can trigger signs of dehydration: fuzzy short-term memory, trouble with basic math, and difficulty focusing on smaller print.

Mild dehydration is also one of the most common causes of daytime fatigue. An estimated 75% of Americans have mild, chronic



Sports drinks “top off” energy before training, supplement energy during training, and/or assist recovery after training.

What NOT To Drink During Training

Consuming a beverage with more than 8% carbohydrate concentration is not recommended. Consuming more than an 8% concentration will slow the rate of fluid absorption in your body. During training, if the fluid you consume does not reach your body’s cells then you will suffer the effects of dehydration.

Headache Weakness

Dizziness Muscle Cramps

Nausea Irritability

Decreased Performance

Some items which have more than 8% carbohydrate content include: fruit juices, sodas, honey & carbohydrate gel.

Beverages containing caffeine and carbonation are discouraged during training because they stimulating excess urine production which can lead to dehydration.

In research, caffeine does show some possible positive performance effects. This relates to 1-2 (6) fl.oz. cups of coffee in the 2 hours prior to training. However, caffeine is also on the NCAA Banned Substance List. Consult with your sports medicine staff prior to the use of any caffeine-containing nutritional supplement.



Dehydration & Sports Drinks

Dehydration at a level of ~2 % or more in a decrease in body weight may negatively affect performance. If conditions are hot and humid, this will only add to the severity of dehydration risk. Answering “yes” to any of these questions may indicate a poor hydration status:

- Am I thirsty?
- Is my urine a dark yellow color?
- Is my body weight noticeably lower than yesterday?

When sweating, all athletes lose electrolytes through their sweating and burn the carbohydrate stores from their muscles.

Electrolytes are minerals in your blood and other body fluids which have many functions which impact sport performance. If only drinking water to hydrate, a problem might be inadequate electrolyte replacement. Water does not contain electrolytes. The main electrolytes for athletes to be aware of are: **Sodium, Potassium & Chloride**

Sodium is the predominant electrolyte lost via our sweat. Its largest functional role is to assist our cells in retaining the fluids we consume. Athletes, especially when training or competing for more than 2 hours or those who have high sweat losses, should replace both fluid and sodium during exercise. Not obtaining adequate sodium through your food or fluids can lead to performance-hampering muscle cramps.

Carbohydrates add to our muscle glycogen or muscle energy stores. Studies (2) have consistently shown that carbohydrate ingestion via a sports drink can improve sport performance. This is especially true when training lasts longer than 60-90 minutes of continuous activity.

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3. Rosenbloom C. & Coleman E. Sports Nutrition: A Practice Manual for Professionals, 5th Ed. Academy of Nutrition and Dietetics: 2012.

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