

Proper Hydration

The importance of proper hydration:

- 75% of the body is made up of water.
- 80% of the brain is made up of water.
- 75% of the muscles are made up of water.
- 92% of the blood is made up of water.
- Water carries nutrients and oxygen to all cells in the body.
- Water helps convert food into energy.
- Water regulates body temperature.

Source: Kendrick Fincher Hydration for Life

Dehydration occurs when you use or lose more fluid than you take in, and your body doesn't have enough water and other fluids to carry out its normal functions. If you don't replace lost fluids, you will get dehydrated.

Source: The Mayo Clinic

Effects of dehydration:

- 1% of dehydration results in thirst.
- There is a 10% decrease in your mental performance when you feel thirsty.
- 2% dehydration reduces your ability to work.
- 4% dehydration results in lethargy, apathy, and mental symptoms.
- Long-term effects of being dehydrated include kidney and urinary tract infections, constipation, continence problems, and kidney stones.
- If you are well hydrated, exercise feels easier and more enjoyable.

Source: Kendrick Fincher Hydration for Life

Warning signs of dehydration:

- Noticeable thirst
- Muscle cramps
- Weakness
- Decreased performance
- Nausea
- Headache
- Fatigue
- Lightheaded feeling or dizziness
- Difficulty paying attention

Source: Kendrick Fincher Hydration for Life

Hydration occurs in three steps:

- 1) **Pre-hydrate.** Make sure you are properly hydrated before beginning your activity.
- 2) **Hydrate.** Replenish fluids as you exercise to keep yourself at a healthy hydration level.
- 3) **Re-hydrate.** Replace the fluids lost during your activity. Sports drinks are appropriate to replace lost salts and electrolytes.

Do not wait until you are thirsty to get a drink.

Source: Kendrick Fincher Hydration for Life

A good way to **determine if you're properly hydrated** is to check the color of your urine. If it's pale like lemonade, you are properly hydrated. If it's dark like apple juice, you need more fluids.

Source: Gatorade Sports Science Institute

By the time our bodies tell us we are thirsty, we are already moderately dehydrated. **The human body needs about 1 mL of water for every calorie burned.** If you burn 3,000 calories a day, you would need 3 liters of water, which is about 13 cups of water.

Source: University of Arizona

Some hydration can come from the foods we eat. A balanced diet that includes fresh fruits and vegetables can help give our bodies the liquid it needs and give us the calories required to maintain a healthy core temperature.

Athletes need to hydrate before, during and after physical activity. A player should be fully hydrated before beginning practice or competition. Fluids lost through sweat and breathing should be replaced by fluid consumption including during workouts, practices and games (physical activity).

Source: Kendrick Fincher Hydration for Life

An athlete needs to replace the fluids that he or she sweats out during exercise. To **determine how much you sweat**, weigh yourself in the nude before exercise, then again after exercise. The difference in the two weights in ounces plus the amount of fluid consumed during exercise will tell you how much you have sweat out.

Source: Runner's World

Sweating can also cause us to lose electrolytes. Consuming only water after a hard or lengthy bout of exercise may not be enough. In combination with a well-balanced diet, sports drinks that contain potassium and sodium can help replace electrolytes lost during exercise.

Hyponatremia

Can you have too much water? Yes! **Hyponatremia is a condition in which the sodium levels in the blood have become too low.** When this happens, your body's water levels rise, and your cells begin to swell. This swelling can cause many health problems, from mild to life-threatening.

Signs of hyponatremia include:

- Nausea and vomiting
- Headache
- Confusion
- Loss of energy and fatigue
- Restlessness and irritability
- Muscle weakness, spasms or cramps
- Seizures
- Coma

Risk factors to hyponatremia include:

- Exercise duration greater than 4 hours or slow running/exercise pace
- Female sex
- Low body weight
- Excessive drinking (>1.5 L/hour) during the event
- Pre-exercise overhydration
- Abundant availability of drinking fluids at the event
- Non-steroidal anti-inflammatory drugs (NSAIDs)
- Other drugs associated with SIADH (SSRI's)
- Extreme hot or cold environment

Sources: The Mayo Clinic and the Korey Stringer Institute