

# CeraSport® Hydration

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## Sweat Replacement: Why What You Drink Matters!

**E**xtrême environments, heavy gear, equipment and clothing combined with physical exertion make hydration a critical issue. Dehydration can cause a significant decrease in performance of both physical and mental skills. Consequently, it is essential to rehydrate correctly. Water and electrolytes play a major role in the proper functioning of the human body. It is vital to replace these nutrients. Maintaining peak performance also requires energy. The ingestion of carbohydrates during physical activity is critical.

### Major Functions of Water in the Body

1. Transportation mechanism in the body for oxygen, nutrients, hormones, and other compounds

2. Regulation of body temperature, especially for physically active individuals
3. Dissolves electrolytes at normal levels
4. Essential for proper functioning of the senses (vision, hearing, smell)
5. Serves to protect key body tissues such as the brain and spinal cord

Water is of primary importance to active individuals. Water is the major constituent of sweat. As sweat evaporates, it can help to dissipate excess body heat and regulate body temperature. Water is the most important nutrient to individuals that are physically active. However, rehydrating with only water is not enough!

Electrolytes need to be replaced during physical activity. "Electrolytes" are substances which, in solution, conduct an electric

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photo by Ramon Serrano

Mirinda Carfrae, Professional Triathlete, 2009.

### Physiological Factors Effecting Hydration:

- ▶ Height
- ▶ Weight
- ▶ Gender
- ▶ Body Composition
- ▶ Genetic Predisposition
- ▶ Resting Metabolic Rate
- ▶ Level of Cardiovascular Conditioning
- ▶ Hydration Status

### Environmental Factors Effecting Hydration:

- ▶ Exercise Intensity and Duration
- ▶ Air Temperature and Humidity
- ▶ Clothing, Gear, Equipment Used
- ▶ Acclimation to the Environment



Richie Cunningham, Professional Triathlete, 2009.

**What You Drink**

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current. Sodium and potassium are positively charged electrolytes that are lost in sweat. Linked to sodium and potassium are two negatively charged electrolytes, chloride and bicarbonate. Chloride and bicarbonate are also lost in sweat. It is essential for physically active individuals to rehydrate with a solution, such as CeraSport or CeraLyte, that contain water, sodium, potassium,

chloride, and citrate. Citrate is an efficient way to replace bicarbonate losses.

**Energy Demands**

High levels of physical activity and varying environmental conditions increase energy expenditure. Carbohydrates have been identified as the most efficient energy source for physical activity and exercise. The ingestion of carbohydrates during exercise has shown to delay the onset of fatigue. The amount of carbohydrate that an individual should consume before, during,

*“The best part about the CeraSport is there is no let-down -- I finish as strong as I start every time. One packet really does go a long way. CeraSport is head and shoulders above all other products on the market when it comes to keeping you hydrated in the hottest conditions.” SM*

and after physical activity is variable. The duration and intensity of the activity, along with an individual’s pre-existing physical condition and environmental factors all play a role in determining how much carbohydrate is needed. In general, carbohydrate feedings should take place every 15 to 30 minutes during prolonged exercise. The feedings should be equal to 15-20 grams of carbohydrate, for example, 6 to 8 ounces of CeraSport every 15 to 30 minutes.

Not all carbohydrates are the same! Many popular sports drinks are made from only simple sugars. Simple sugars provide a short-lived high and are often associated with nausea and cramping during physical activity. CeraSport and CeraLyte are made from a patented rice-based carbohydrate. The rice-based carbohydrate is a mixed chain carbohydrate that stimulates a timed response for quick and sustained energy. The timed response also assists the body in salt and water absorption.

**Stay Hydrated**

Hydration is a critical issue for military personnel. If an individual does not stay hydrated, the consequences can be very dangerous, and even fatal. Cera Products’ hydration drinks including CeraLyte and CeraSport have been scientifically designed by the doctors at Johns Hopkins University to replace nutrients that are lost in sweat and help individuals stay hydrated. They also contain mixed-chain carbohydrates that provide quick and sustained energy for physically active individuals.

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**References:**

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Gastelu, D. & Hatfield, F. (1997). *Dynamic Nutrition for Maximum Performance*. New York: Avery Publishing Group.

Williams, M.H. (1999). *Nutrition for Health, Fitness, and Sport*. Boston: WBC McGraw-Hill.

*“The packets were a lifesaver... at 37 years old I just went through some vigorous training in very hot conditions and if I didn’t have the CeraSport, I would have probably been a heat casualty.” PS*