



Hydration[©]

SPECIAL EDITION

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Triathletes and CeraSport

Mirinda Carfrae is a triathlete and an avid user of CeraSport. Hailing from Australia, she trains in Boulder, Colorado and competes all over the world. She has competed in various triathlons over the years and has set multiple course records. Mirinda won first place at the Spirit of Racine in Wisconsin, and placed second at several other events in the first part of 2007, including Buffalo Spring Lake, and the Wildflower Triathlon Festival, and the Eagleman in Cambridge, Maryland. Triathlons are tough, strenuous events, which consist of swimming, running and biking anywhere from 2 hours to 16 hours. Triathlons are of varying distances around the world and “now includes thousands of races with hundreds of thousands of competitors worldwide each year,” according to Wikipedia. Remaining hydrated by drinking CeraSport, Mirinda is able to keep up her endurance and athletic performance. CeraSport is a proud sponsor of Mirinda, and wishes her good luck



as well as good hydration in her upcoming races.

CP: How long have you been competing in triathlete competitions?

MC: I competed in my very first triathlon at the end of 1999. It was a very short one - only a 300m swim, 10km bike and 3km run. It was extremely hard but loads of fun and not like anything I had ever done before.

CP: Over the years you have set course records in multiple races. What is your personal best record?

MC: It's hard to say what my personal best is, every course is different and therefore some are much faster than

others due to the terrain of the course, heat, wind etc. As of May 2007, the fastest time I had ever done for a half ironman is 4 hours 13 minutes 18 seconds at the Eagleman 70.3 event in 2007, but that is not to say that that is my best performance, I did race well but this is also one of the fastest courses on the circuit. I have to keep on improving.

Carfrae continues on page 4

Team Sirius

Team Sirius is now sponsored by CeraSport. Siri Lindley, who was ranked as #1 female triathlete for three years, until she retired in 2002, was a two-time world champ, and started Team Sirius, a squad of elite triathletes in 2002. Based in Boulder, Colorado, Lindley trains athletes racing in the ITU World Cup Circuit, USA Pro series, the 70.3 series, and the Ironman series. A winner of 13 World Cup races, Lindley's experience and expertise assist in her coaching abilities and is illustrated in the success of her students. Among the athletes she coaches is Olympic silver medalist Loretta Harrop, Olympic Bronze medalist Susan Williams, Canadian National Champion Lauren Groves, and CeraSport's Mirinda Carfrae. Learning about CeraSport through Mirinda, Lindley now recommends CeraSport to all her students to remain well hydrated during training and races. Lindley received a positive response from her athletes after they tried CeraSport. ■



“My athletes are LOVING the CeraSport!”

Siri Lindley
August 2007

Osmolarity in CeraSport

Osmolarity is a term that refers to the concentration of particles dissolved in a fluid. The number of these particles, or osmoles, determines the absorption rate of fluids in the body, important when it comes to hydrating the body. If the osmolarity of a fluid

tolerating these drinks because fluids with a high osmolarity may cause muscle cramps, diarrhea, or vomiting.

CeraSport has a low osmolarity (150 mOsm/L), because it is formulated from a mixed-chain rice carbohydrate rather than with glucose. It absorbs quickly but also continually.

A cyclist for Lateral Stress Velo Cycling team, R. Muoio, solved his cramping problem by drinking CeraSport. "I really believe that CeraSport has helped me solve, or at least prevent

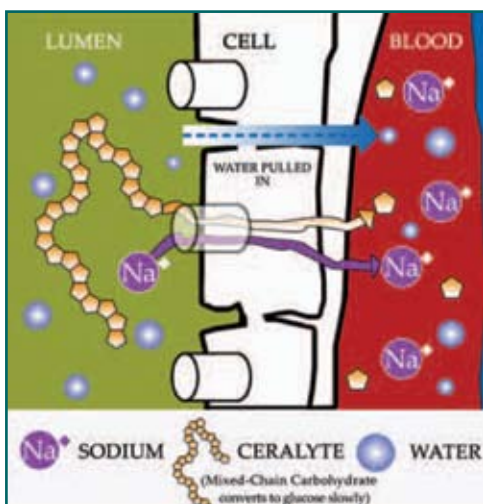


Fig. Intestinal absorption of glucose (from rice) and sodium and water via co-transport system

is too high (above 300 milliosmoles per liter or mOsm/L), it is hard for the body to absorb. Fluid with osmolarity below 300 mOsm/L is absorbed quickly and effectively by the body.

Athletes or anyone engaged in high sweat loss activities should drink fluids with a low osmolarity, to absorb and hydrate the body quicker than fluids with a high osmolarity. Many popular sports drinks have a high osmolarity, over 365 mOsm/L. Most athletes have problems

the cramping problem that began plaguing me a few years ago...I use CeraSport regularly, I truly think it's a great product."

Clinical tests have shown that mixed-chain carbohydrates, like those in CeraSport, promote sustained fluid absorption when compared to simple sugar based sports drinks. CeraSport has the proper blend of electrolytes the body needs to replace losses due to sweat; giving CeraSport to athletes and others is providing what they need for quick recovery and for sustained performance. ■

CeraSport Hydrates LSV

CeraSport is a proud sponsor of Lateral Stress Velo (LSV), a racing and bicycling team in Baltimore, Maryland. LSV teams have been drinking CeraSport to maintain hydration for years. LSV elite members find it keeps them hydrated and helps maintain their performance throughout a race. Here are some quotes:

"Not only do I use CeraSport regularly, but I truly think it's a great product." - Ralph Muoio

"I love CeraSport. CeraSport always went down easy and I never had a problem with keeping it down." - Tom Soladay

"I have used it for a few years and like it. Easy on digestion, which is an issue for me." - Chris Hardee



Command Sgt. Major Walker and RTB Col Hager thanking Charlene Riikonen, President of Cera Products, for sponsoring the Best Ranger Competition, April 2007. The 2007 winners of the Davie E. Grange Jr. Best Ranger Competition were Master Sgt. Walter Zajkowski and Major Liam Collins. A first-ever in 2007 included the father-son team of Command Sgt. Major Doug Greenway and Staff Sgt. Brandon Greenway.



Aaron Lewis, Cari Valenti, and Charlene Riikonen of Cera Products at the meeting of the Society of Army Physician Assistants, Fayetteville, NC, April 2007.

Signs and Symptoms of Dehydration

Water is essential for the body to function. Not only does it form the basis for all body fluids, but aids in the transportation and absorption of nutrients. Water helps to maintain body temperature, metabolize body fat, aids in digestion, lubricates and cushions organs, and flushes toxins from the body. Approximately 85% of the brain, 80% of blood,

and 70% of muscle is water.¹ The average adult loses close to 2.5 liters of water a day simply from sweating, breathing, and eliminating waste. All body functions are affected when people become dehydrated.

People get dehydrated when they lose more fluid than taken in and they do not have enough water or other fluids in their body to perform normal functions. If fluids

are not replenished, mild dehydration may become life-threatening. Common causes of dehydration include diarrhea, vomiting, fever, or excessive sweating.

Monitoring fluid loss in hot weather, during illness, or exercise is a good way to avoid dehydration. Thirst is not always a reliable gauge. A better way to get an idea if you are well hydrated is to look at the color of your

urine. **Clear light-colored urine means the body is well hydrated;** dark yellow or amber colored urine means you are dehydrated.

Signs and Symptoms of: A. Mild to Moderate Dehydration:

- ▶ Thirst, dizziness
- ▶ Drymouth
- ▶ Sunken eyes

Signs continues on page 4

Water Intoxication: Counteract it!

Athletes are constantly warned of the dangers of dehydration, but water intoxication is rarely addressed even though it is common. Water intoxication was reported in 18% of marathon runners, and in 29% of the finishers in a Hawaiian Ironman Triathlon.

“Not just any fluid will do.”

W.B. Greenough, III, MD
Johns Hopkins

When an athlete consumes large amounts of water in a short amount of time, the volume of the circulating blood increases and its salt content decreases. The athlete is also losing salt by

sweating. The amount of salt available to the body tissues decreases over time, and the loss will eventually begin to interfere with brain, heart, and muscle function.

Hyponatraemia, in water intoxication, is “a sodium imbalance caused by drinking excessive amounts of fluid.” When the normal balance of electrolytes in the body is thrown off balance by a very rapid and excessive intake of water, the result can be fatal. Essentially the body is drowning from the inside out.

Examples of athletes who died from drinking too much water include Officer James McBride who died from hyponatraemia while training to use a bicycle on patrol (2005, Washington, D.C.), Cynthia Lucero in the Boston Marathon (2002), and USAF trainee, Michael J. Schindler, finishing a 5.8 mile march (1999). They

were doing the right thing by drinking “fluids”, not knowing, “NOT JUST ANY FLUID WILL DO.”



Symptoms

Warning signs of water intoxication are subtle and may resemble dehydration:

- ▶ Nausea
- ▶ Muscle cramps
- ▶ Slurred speech
- ▶ Disorientation
- ▶ Confusion

In the most extreme cases

of water intoxication, an athlete may also experience seizures, coma, or death.

Prevent It!

At the first sign of dehydration, it is important to hydrate and include the electrolytes the body needs in order to function. CeraSport's unique formula has rice carbohydrate, electrolytes and water which properly hydrate the body. ■

Resources:

Bird, Patrick J (2000). Keeping Fit: You Can Drink Too Much Water, University of Florida, 2000.

Quentin Wilber, Del and Brown, David (2005) 'District Officer Dies After Bike Ride: Over-Hydration Cited as Factor', Washington Post, 11 August, p. B01.

Water Intoxication. <http://wikipedia.org/wiki/WaterIntoxication>.

Carfrae *cont. from pg 1*

CP: How do you keep up your endurance for an entire race?

MC: This really comes from preparation. The months of training in the off season as well as the final preparation. Nutrition is also a big factor. All the training in the world will not do a thing unless you know how to keep yourself appropriately fueled!

CP: What is your diet in order to keep up your energy and strength for racing?

MC: I have the same nutrition plan for every race I go into and I make sure I have plenty of carbohydrates the day before the race. I usually do this by drinking juice and CeraSport. Race morning consists of some toast and about 600ml of CeraSport which I make sure I finish at least one hour before the race starts. During the bike in a half ironman, I aim to consume around one

gram of carbohydrate per kg of body weight per hour. So for me that's around 52 grams/hr. That is about 120g for the duration of the bike leg which usually takes 2hrs 20mins - 2hrs 30mins. I use a combination of CeraSport along with gels to make up the 120g. On the run I take a gel flask which contains two gels - so around 60g of carbohydrate. Along with the gels I carry I try to take in as many fluids as I can out on the run course. It's pretty hard to get much in while running though, just a mouthful here and there.

CP: How do you train for a race?

MC: At the very beginning of the year I sit down with my coach and plan out what races I would like to compete in. There are usually 10 to 15 races on my calendar and I can't peak for every race, so we decide which races are the most important and we create a training plan that will have me going fast at the important races and get me as ready as possible for all the other races.

CP: How has CeraSport helped you in competition compared to other sports drinks?

MC: I switched to CeraSport at one of my half ironman events. I found CeraSport not only was easier to drink than most other sports drinks but it didn't leave me with that bloated feeling that I get with other sports drinks that contain loads of sugar. One other thing that I found was that when I woke up on race day I didn't have any diarrhea. Previously, at every race that I have competed in, I have had this very problem and had to make a number of trips to the toilet before the race. This was the first time that I had no diarrhea. I had always put it down to nerves but now know that it was that the sugary sports drinks I was drinking were upsetting my stomach. I also found that running off the bike was much more comfortable. I was able to get all the carbs I needed in on the bike without having to run off the bike with a bloated tummy. In the last two half ironman races

that I have finished, using CeraSport, I have broken both run course records!

CP: Any nutritional recommendations for athletes in training?

MC: Of course, I urge people to try CeraSport. I think it makes a huge difference in overall performance. I have already convinced a few of my friends to try this product and they have all found it to be above and beyond anything they have tried before. One thing I will say is that you should trial any product that you would like to race with in training first. ■



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TO ORDER

Cera's Products, call us or go to CeraStore at www.ceraproductsinc.com to have CeraSport and CeraLyte conveniently delivered to your home or office.

A growing number of distributors and national chain stores also have CeraLyte available - call us to see if there is one near you.

Signs *cont. from pg 3*

- ▶ Loss of skin elasticity
- ▶ Muscle weakness
- ▶ Decreased urine output

B. Severe Dehydration:

- ▶ Extreme thirst
- ▶ Very dry mouth, and mucous membranes
- ▶ Sunken eyes
- ▶ Low blood pressure
- ▶ Rapid heartbeat, rapid pulse
- ▶ Cold extremities

- ▶ Loss of skin elasticity (dry and shriveled skin that lacks elasticity and doesn't bounce back when pinched into a fold)
- ▶ Little or no urination
- ▶ Semicoma, coma

As your body eliminates water, you lose electrolytes, (sodium, potassium), and calcium, which help maintain the balance of fluids in the body. Water lacks electrolytes that the body needs in order to fully recover. CeraSport restores

essential electrolytes and fluids to prevent and correct dehydration. Cerasport's rice-based formula provides **effective and sustained fluid absorption** with lower osmolarity, allowing for both quick and sustained replacement of fluids lost. **The result: maintenance of homeostasis, prevention of injuries, and optimal performance.** ■

Resources: *Dehydration*. Mayo Clinic.com www.mayoclinic.com/health/dehydration/DS00561/DSECTION=2