

## Electrolytes and Athletes – The critical facts

If you have been competing at any level, in just about any sport, chances are you are aware of the importance of electrolytes. That awareness, and how you apply it, can make all the difference to your performance.

This report summarizes information available on electrolytes and hopefully lets you make an informed choice on the electrolytes you consume.

### What Are Electrolytes?

Electrolytes are usually solutions of acids, salts or bases. These may be solid, or liquid when dissolved, or even a gas. For example, carbon dioxide when dissolved in water releases carbonate and hydro carbonate electrolytes.

In essence, an electrolyte solution is a liquid which has the potential to conduct electricity thanks to the salts, bases and acids dissolved in it. This is why in some cases molten salts, while not dissolved, may be considered electrolytes. They conduct electricity.

Electrolyte solutions vary in intensity however, and it's this variance between dilute and strong solutions that determine how effectively the solution conducts electricity. The more water, the less electrical current transfer capacity, and the weaker the electrolyte solution.

So while water is critical to maintain hydration, it does not provide the power our bodies need. If you are training or competing, you need something more.

### Electrolytes in the Body

For the purpose of this report, we focus on the human, but it's worth noting that all animals require the correct balance of electrolytes to function and perform. Here's why.

Electrolytes, such as sodium ( $\text{Na}^+$ ), Calcium ( $\text{Ca}^{2+}$ ) and so on, are all ionic in nature, as indicated by the positive or negative charge symbols. Since many of the tissues in the human body require electricity to function, it stands to reason that the passage of these positive or negatively charged ions between the intracellular and extracellular fluids provide the charge required. Without the correct or adequate levels of a particular electrolyte, or indeed, a particular polarity, the tissues that rely on this transfer of energy to function correctly do not receive the power or energy they need, and they cannot function at their peak.

This is why, when athletes become dehydrated, the body is overcome with an extreme form of fatigue. If this continues long enough, it can have serious consequences. It's a little like the batteries being taken out of an appliance. Without power, you have no functionality.

Of course, we need a wide range of different electrolytes in our bodies, as each is used for a specific purpose. For instance, sodium, potassium and calcium, are required for muscle contraction. While magnesium, is needed for muscular relaxation. If there are insufficient levels of these flowing through the ionic channels in the cells, muscle contraction and relaxation will be poor and imbalanced which will lead to muscular cramping, fatigue and poor performance.

### **What If You Consume Too Many Electrolytes?**

For the average person in the street, who is not a competitive athlete, a balanced diet will provide them with their quota of electrolytes. However, as an athlete, how do you know how much is enough, and how much is too much?

Well, the good news is that the body's excretory system is actually designed to rid the body of excess electrolytes. The sweat glands, kidneys and other excretory organs all contribute to getting rid of any excess. If, of course, you have adequate renal and organ function!

In a healthy person, this is known as electrolyte homeostasis, and means that the body has neither a shortage nor an excess of the electrolytes it needs to function. The process of regulating this electrolyte homeostasis is hormonal, and controlled by a variety of hormones secreted from the endocrine glands.

So, if you are healthy, your body will naturally work to keep your electrolyte levels in balance, if you are consuming enough electrolytes, that is. In fact, if and when you are ever required to undergo electrolyte testing, you will almost certainly be tested for renal function too, since elevated electrolyte levels are a clear indication of renal difficulty.

### **The Problem with Commercial Preparations**

Up till now commercial beverages, powders and gels have been the best options for athletes.

However, many of these commercial preparations also contained high levels of sugar, preservatives, water and other ingredients, and less than the optimal level of electrolytes.

This meant that even as athletes consumed them, they still ran the risk of an electrolyte imbalance. Their bodies struggled to process the various additives and fillers, instead of combining with the vitamins and minerals that are needed for the electrolytes to be properly absorbed and utilized.

In short, the bioavailability of the electrolytes themselves was low, meaning many important electrolytes were excreted before they could be absorbed and used.

### **The Solution - [Recovery e21](#)**

The endurance athlete requires a solution that supplies a full spectrum of organic electrolytes with adequate amounts of trace elements and minerals for immediate bioavailability.

The endurance athlete does not require all the extra ingredients, colorants, flavorants and preservatives of the standard commercial products.

When, in my sports medical practice I was presented with Recovery e21 I was so excited to find it offered the following benefits over its competitors:

- **Recovery e21** contains a full spectrum of electrolytes that are immediately bioavailable.
- **Recovery e21** is completely organic, rather than manufactured or synthetic.
- **Recovery e21** maintains a balance of electrolyte intake.
- **Recovery e21** allows you to maintain hydration, without risking over hydration.
- **Recovery e21** has a positive effect on body and mind because it supports the conductivity of both neural and muscular tissues.
- **Recovery e21** minimizes or eliminates the risk of muscle soreness and cramping.
- **Recovery e21** contains no sugar, no fat, and no preservatives and is vegan friendly.
- **Recovery e21** contains 93 other trace elements and minerals needed for rapid absorption and utilization.

## Summary

**Recovery e21** is a capsule with a full spectrum of 21 electrolytes and a combination of 93 other trace elements and minerals. It will assist athletes with immediate resorption and bioavailability for the body to utilize and rapidly recover following vigorous exercise. It's light, portable, and easy to carry anywhere, even on the most rugged of terrains. Improved energy and less risk of fatigue means you can train harder, and train longer, with no additional risk of soreness, cramping or fatigue,

Made from a single cell dried algae harvested from the remote waters off the North West coast of Australia, it is scheduled to launch in the US on October 14 of this year.

There is simply no other product on this planet that can deliver such results by natural means. If you are a serious athlete looking for a natural edge over your competitors, then this is the product for you.

For more information visit [www.Recoverye21.com](http://www.Recoverye21.com)

Dr Adrian C. Adams, DC