



## **ELETE Electrolyte Add-In**

ELETE  
1990 West 3300 South  
Ogden, UT 84401

Phone (800) 669-1297  
(801) 731-7040

Fax (801) 731-7985

Mailing Address:  
P.O. Box 190  
Roy, UT 84067

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## **Debunking the Myth that Only Calories Provide Energy**

It is an often repeated, yet mistaken, axiom cited by nutrition experts and athletes that only carbs or calories provide energy. A few years ago the U.S. Food and Drug Administration considered only allowing foods and drinks with calories to make an energy claim. This misunderstanding is due, in large part, to a very narrow and even misleading definition of energy. While it is fully recognized that calories are essential for energy, it is not necessarily true that they are the only element essential to active energy or even that they are the most common missing link that causes low energy or “bonk.” Consider the following: Do people who consume the most calories typically have the highest energy?

You could have the best electrical hook up for a house, but with faulty or incomplete wiring, it is impossible to access that energy. Heat, fuel, and oxygen are all elements essential for fire. If any one of these elements is lacking, fire is not possible. Energy for the body is much the same, fully dependent on various elements to create active energy, and calories are only one essential component.

The human body has been compared with a finely tuned engine. When it comes to understanding how your body uses energy, if carbs or calories are comparable to the fuel in the gas tank, then electrolytes are comparable to the spark plugs. While it is true that if you run out of gas you will not be able to go any further, it is also true that if you have premium spark plugs your car can have better “pick up” and/or even better gas mileage. And if you don’t have spark plugs at all, you will not even be able to start the engine

Electrolytes contribute to energy on various levels within the body. First, they are essential carriers of energy. One of the main functions of electrolytes within the body is that they act as energy conductors. Second, they are essential converters of energy. Electrolytes are essential catalysts for numerous energy reactions throughout the body. Without electrolytes, the body is not able to convert dormant energy into active energy. Third, the movement of electrolytes is a basic energy source used by the body. The energy stored in a battery, for example, is created solely by the movement of charged ions that create electrical energy. Here is some food for thought for those who claim that calories are the body’s only energy source—how many calories are there in a battery?



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The body needs a balance of electrolytes, which it constantly moves and shuffles for specific purposes. In various energy reactions within the body, one electrolyte will act as an “on” switch while another acts as the “off” switch. Some electrolytes aid acceleration while others act as the brakes. Both acceleration and braking consume energy and are absolutely essential. But if your muscles are always accelerating or braking, you will experience low energy, muscle spasms, or cramps.

For clarification, an essential nutrient, as it’s used by nutrition experts and cited in medical or health textbooks, means that the particular nutrient is needed by the body and cannot be replaced by any other nutrient. When it is stated that a certain nutrient is essential for a particular purpose, it means that nothing else can replace that nutrient for that particular purpose within the body. For example, magnesium is an essential electrolyte that is required for energy conversion within the body. As such, no other electrolyte, mineral, vitamin, nutrient—not even carbs—can replace it. In other words, energy conversion will not occur without sufficient magnesium.

**“Here is some food for thought for those who claim that calories are the body’s only source of energy—how many calories are there in a battery?”**

You can store dynamite, a powerful explosive, but it doesn’t necessarily mean that you can harness all of that energy to operate a blender or turn on the television set. No one wants extra dormant energy, i.e., fat in his or her body. When we say that we want or need more energy, we almost always mean that we want more properly controlled active energy, which is dependent on the proper balance of calories and nutrients within a healthy body.

Glycogen, which is what most people associate with energy within the body, goes through the ATP (Adenosine Triphosphate) energy channel in order to become active energy. What most people do not know is that ATP is fully dependent on magnesium. In fact, most of the ATP within the body exists as a compound with magnesium stated as MgATP. Magnesium happens to be one of the most overlooked essential electrolytes.

So, the next time you’re explaining to a friend that you use electrolytes because they give you energy and your friend tries to tell you that only carbs give energy, ask them, “Do the people who consume the most calories have the most energy?”

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