

## Use Nutrition to Boost Your Energy

Whether you are an athlete looking to improve performance or someone who suffers from low energy, there are a number of nutritional substances that can help.

### Ergogenics and Performance

If you are an athlete and looking to use nutrition to increase performance, consider the following nutrients. Also, non-athletes can who are looking to increase energy can benefit from taking these.

#### L-Carnitine

L-Carnitine is an important substance involved in the metabolism of fats. In other words it is a key molecule in the fat-burning system of the body. It also inhibits the buildup of lactic acid. Lactic acid is a byproduct of one of the anaerobic energy systems (glycolysis). It makes the blood acidic as well as contributes to muscle soreness. Lactic acid tends to shut down the anaerobic systems.

Although L-carnitine is made by the body athletes may use more than the body can make.

The benefits of L-carnitine include improved endurance and an increase in the use of oxygen.

Dose = 2-4 g. taken for 2 weeks, one hour before exercise.

Use l-carnitine only. D-L or racemic carnitine is toxic.

#### Caffeine

Use of caffeine does not improve performance in sedentary individuals. Use of caffeine does improve performance in athletes. Caffeine will not work in habitual users.

Caffeine helps the body burn fat by facilitating the aerobic energy systems. These systems use fats as fuel. For example one cup of caffeinated coffee just before aerobic exercise will promote the burning of body fats. The problem with caffeine is that it can cause palpitations and abnormal heart beats as well as raise blood pressure in some people. Therefore it should be used with caution.

Caffeine's benefits:

Stimulates central nervous system

Increases release of adrenalin

Increases use of bodyfat as fuel.

Saves glycogen.

Problems:

Diuretic-can cause loss of body fluids.

Can raise body temperature and cause athletes to overheat.

Dose:

Take 3-4 hours before exercise.

10mg/kg body wt. Ex 750 mg for 165 lb.

Can get from coffee--use 100% Columbian. Coffee contains about 120mg/cup.

#### Ginseng

Ginseng has long been recommended to increase energy. Some studies using a formulation of ginseng called G115 (Ginsana) showed improvement in performance for athletes including an increased time to exhaustion, decreased lactic acid levels, increased vital capacity.

Dorling, E. et al Do ginsenosides influence performance. Results of a double blind study. Notabene Medicine. 1980;10:241-46. Forgo I, Shimert G. The duration of effect of the standardizing ginseng extract. Notabene Medici 1985:15:636-40.

Dose = 200mg/day of standardized extract.

## Chromium

Chromium has been shown to help increase lean muscle mass and helps to stabilize blood glucose levels. There are two useful forms of chromium:

Chromium picolinate is a good form of chromium. It is absorbed five times better than other chromium compounds.

Dose = 200 to 800 mcg/day.

Dr. Muriel Gillman at Bemidge State Univ. gave 200 mcg of chromium picolinate per day to college freshman (double blind study) for 6 weeks. The results were an average gain of 3.5 lbs of lean body mass.

A larger study done with football players showed a gain of 5.7 lbs of lean body mass along with a 3.6% loss of bodyfat.

## Growth Hormone

Growth hormone is a hormone produced by the anterior pituitary gland. The level of growth hormone varies throughout one's life but it is generally higher during childhood and gradually decreases throughout adulthood.

Growth hormone is frequently in the news because some athletes have taken growth hormone injections. Growth hormone or HGH (human growth hormone) increases lean muscle mass and athletic performance.

Growth hormone is a banned substance for athletes and is only used in patients with certain diseases under the supervision of a physician. Although you cannot take human growth hormone you can take a glandular version from an animal or a molecule that becomes growth hormone.

This molecule is L-arginine, an amino acid. It helps the body to release growth hormone.

Dose = 3 gm to 24 gm depending on activity level and body wt.

## Creatine

Another substance used by the body's energy systems is creatine. Creatine is used during the early stages of intense activity. The body uses a form called phosphocreatine that produces a common energy molecule in the body called adenosine triphosphate or ATP. ATP is used to power many of the body's processes including muscular contraction.

Creatine is available in creatine monohydrate form.

Here is a summary of the benefits of creatine:

Increases body's production of creatine phosphate which is stored in the body along with ATP and used in muscular contraction.

ATP is used first in muscular contraction followed by CP which when used allows the ATP to replenish.

Creatine loading is useful for events that require short bursts of energy for short periods of time.

Dose = 8mg for every 1 lb of lean body mass for long term usage.

Dose = 80 to 100 mg for every 1 lb of lean body mass for short term usage.

Caution: Creatine has not been studied in children under 16 years old. Also, side effects of creatine include abdominal cramping, headaches and

diarrhea.

It is also recommended that you stop using creatine for 4 weeks about every 3 months.

#### L-Glutamine

L-Glutamine plays a key role in protein synthesis and protects muscle from breakdown during exercise.

Dose: 2 gm about 1 hour before exercise.

#### More Vitamins for Energy

If you are not an athlete you may consider some of the following molecular substances for energy.

Many people with low energy have a vitamin B deficiency. If you have low energy you may consider taking a good vitamin B complex.

#### Vitamin B complex

Folic acid--Deficiency may be associated with easy fatigability.

Pantothenic acid Deficiency associated with tiredness.

Pyridoxine--supplementation may increase endurance.

Vit B12--supplementation may reduce tiredness.

Vit C--Deficiency may include fatigue. Dose = 500 to 1000 mg/day.

Iron--Deficiency associated with fatigue.

Magnesium--required for ATP synthesis. Magnesium may also relieve tiredness.

Potassium--deficiency associated with fatigue.

CoQ10--may improve performance. Dose = 30 mg/day in divided doses.

Octacosanol--may increase stamina. Dose = 375 mg/day.

Nutrition can have a powerful effect on the human body. As always, it is important to discuss using nutritional or herbal substances with your healthcare practitioner as part of your overall health program.

#### About the Author

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