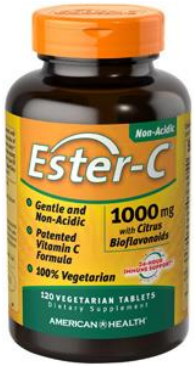
Supplements That Best Support Your Exercise Routine

We are closing in on a new year, a time when many people embark on resolutions which include changes to lifestyle such as diet and exercise. If you want to perform at your physical best, a nutritionally adequate diet and sufficient hydration are critical. Eating whole foods and reducing or eliminating processed foods like sugar and white flour is also important. Plus you should reject any categories of food you consider inflammatory. In addition to a sound nutritional foundation you may want to consider supplements that will:

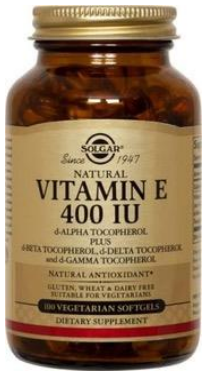
- Reduce activity related inflammation
- Reduce free radical formation
- Remove metabolic wastes
- Improve oxygen and blood flow
- Provide energy and stimulate muscle growth

Let's look at some key supplements that will help you achieve your exercise goals.

Anti-oxidants



Exercise increases the body's consumption of oxygen and induces oxidative stress. Oxidative stress occurs when the production of reactive oxygen is greater than the body's ability to detoxify the reactive intermediates. This imbalance leads to oxidative damage to proteins, molecules, and genes within the body. Since the body is incapable of keeping up with the detoxification of the free radicals, the damage continues to spread. Free radicals could accelerate muscle damage and fatigue, producing inflammation and soreness. Recovery promoting supplements containing antioxidants, such as vitamins C, E and CoQ_{10}, could **reduce this free-radical formation**, thereby minimizing skeletal muscle damage and fatigue.



Arginine

Taking arginine in supplement form enhances exercise and athletic performance in several ways. Arginine is converted to nitric oxide, **a potent vasodilator that can increase blood flow** and the delivery of oxygen and nutrients to skeletal muscle. Increased vasodilation can speed up the **removal of metabolic waste products** related to muscle fatigue, such as lactate and ammonia that the body produces during exercise. Arginine is required to make creatine, which **supplies muscles with energy** for short-term, intense activity.

Beet Root

Beets are one of the richest food sources of inorganic nitrate which converts into nitric oxide in the body, thereby enhancing athletic performance. Nitric oxide is a **potent vasodilator** that can **increase blood flow** and the delivery of oxygen and nutrients to skeletal muscle.

BCAA's and Glutamine

Three essential amino acids—leucine, isoleucine, and valine—are the branched-chain amino acids (BCAAs). Unlike other essential amino acids, the BCAAs can be metabolized by mitochondria in skeletal muscle to **provide energy** during exercise. Glutamine is the most abundant amino acid in muscle, blood, and the body's free-amino-acid pool. It is synthesized in the body primarily from the BCAAs. Glutamine is a key molecule in metabolism **and energy production**.

Creatine

Creatine is one of the most thoroughly studied and widely used dietary supplements to enhance exercise and sports performance. Creatine is produced in the body and obtained from the diet in small amounts. It helps **generate ATP and thereby supplies the muscles with energy**, particularly for short-term events.

Iron

Iron is an essential mineral and a component of hemoglobin and myoglobin. Hemoglobin **transfers oxygen from the lungs to the tissues**. Myoglobin provides the muscles with oxygen. Iron is also **necessary for energy**. Iron deficiency impairs oxygen-carrying capacity and muscle function, and it limits people's ability to exercise and be active. Without iron, fatigue, low energy and lower aerobic capacity will derail your exercise plans.

Protein

Protein is necessary to **build, maintain and repair muscle**. Protein oxidation and breakdown occurs in the muscles during exercise. After exercise protein synthesis increases. Consider protein type, quality and quantity to meet your nutritional needs. Essential amino acids from the diet or from supplementation support muscle growth, maintenance and repair.

Ribose

Ribose is a naturally occurring 5-carbon sugar synthesized by cells and found in some foods such as mushrooms, meat, dairy and fish. Ribose is involved in the production of ATP to **supply muscles with energy**. The amount of ATP in muscle is limited and it must continually be resynthesized therefore the more ribose in the body the more potential ATP production.

Tart Cherry

The Montmorency variety of tart or sour cherry contains anthocyanins and other phytochemicals, such as quercetin. These compounds have been found to have anti-inflammatory and antioxidant effects that might **facilitate exercise recovery by reducing pain and inflammation**, strength loss and muscle damage from intense activity, and hyperventilation trauma from endurance activities.

Omega 3's

Omega 3 DHA and EPA are strongly associated with **reduced exercise related inflammation and improved blood flow**. Muscle soreness can be alleviated, swelling can be reduced and range of motion can be increased through improved circulation. Cold water fish are your best food sources for DHA and EPA. Vegetarians may get Omega 3's from flax oil but the Alpha Lipoic Acid in flax must be converted to DHA and EPA in the body, so the most efficient way is a fish source whether in food or supplements.

Electrolytes

Don't forget the all-important electrolytes before, during and after exercise! You need minerals, even trace minerals, to carry **electrical energy for muscle contractions and nerve cell transmission**. Electrolytes maintain balanced fluid and salt levels at the cellular level. It is particularly important if you are exercising outside in a hot climate.

Elite and recreational athletes perform at their best and recover most quickly when they consume a nutritionally adequate diet, drink sufficient fluid and supplement as necessary. Whether you have an exercise routine or are considering one, think about how you can best support the demands made on your body.

Treat it as the divine being it is!