Coenzyme Q10 (CoQ10) is an essential component of the mitochondria - the energy producing unit of the cells of our body. CoQ 10 is involved in the manufacture of ATP, the energy currency of all body processes. A good analogy would be a spark plug in a car engine. Just as the car cannot function without that initial spark, the human body cannot function without CoQ 10.

Although CoQ10 can be synthesized within the body, many people are deficient of this important compound. As the heart is one of the most metabolically active tissues in the body, a CoQ10 deficiency affects the heart the most and can lead to heart failure. Deficiency could be a result of impaired CoQ10 synthesis due to nutritional shortcomings, a genetic or acquired defect in CoQ10 synthesis, or increased tissue needs. In addition, the elderly may have increased CoQ10 requirements as CoQ10 levels are known to decline with advancing age.

What are CoQ10’s principal uses?

A CoQ 10 supplementation is used primarily in the treatment of cardiovascular diseases such as congestive heart failure, high blood pressure, cardiomyopathy, mitral valve prolapsed, coronary artery bypass surgery, and angina. It is also used for diabetes, periodontal disease, immune deficiency, cancer, as a weight-loss aid, muscular dystrophy, and as a performance-enhancing agent for athletes. Since the response of CoQ10 can take time, a noticeable improvement might not occur until eight or more weeks after therapy is begun.

Q How does it improve heart function?

A It works by improving energy production in the heart muscle and by acting as an antioxidant.1-2 The use of CoQ10 in cardiovascular disease has been clearly documented in animal studies and human trials. CoQ 10 deficiency is common in patients with heart disease. Biopsy results from heart tissue in patients with various cardiovascular diseases showed a CoQ 10 deficiency in 50 to 75% of cases. Correcting a CoQ 10 deficiency can produce dramatic results in virtually all types of heart disease.3-7

Q Can CoQ10 lower blood pressure?

A Yes. CoQ10 deficiency has been shown to be present in 39% of patients with high blood pressure. This finding alone suggests a need for CoQ 10 supplementation. However, CoQ 10 appears to provide benefits beyond the correction of a deficiency. In several studies, CoQ 10 has actually been shown to lower blood pressure in patients with hypertension.8-10 The effect of CoQ 10 on blood pressure is usually not seen until after 4-12 weeks of therapy. Typical reductions in both systolic and diastolic blood pressure with CoQ10 therapy in patients with high blood pressure are in the 10% range.

Q How does it help periodontal disease?

A Periodontal disease (gum disease) affects 60% of young adults and 90% of individuals over age 65. Healing and repair of periodontal tissue requires efficient energy production. A metabolic function dependent on an adequate supply of CoQ10. CoQ10 deficiency has been reported in gingival tissue of patients with periodontal...
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Q Can CoQ10 boost the immune system?
A Yes. Because CoQ10 is an essential cofactor for energy production, it is possible that CoQ10 deficiency is a contributing cause of some cases of obesity. Serum coenzyme Q10 levels were found to be low in 52% of the obese subjects tested. When the subjects with low CoQ 10 levels were given 100 mg/day of CoQ10, their mean weight loss (after 8-9 weeks) was 13.5 kg, compared with 5.8 kg in those with additionally normal levels of CoQ 10, who were also given 1000mg/day of CoQ 10. This study suggests that about 50% of obese individuals may be deficient in CoQ10, and that treatment with this coenzyme may accelerate weight loss resulting from a low-calorie diet.

Q How much CoQ10 should I take?
A The usual dosage of CoQ10 is 50 to 150 mg/day. Although most studies used a dosage of 100 mg per day, larger doses (up to 300 mg/day) may be needed in cases of severe heart disease. Perhaps a more accurate dosage recommendation is based upon the persons weight. Some of the studies used a dosage of 2 mg of CoQ10 for each kilogram (2.2 pounds) of body weight.

Q What is the best form of CoQ10?
A Coenzyme Q10 is available primarily in tablet or capsules. The best preparations are softgel capsules. To further enhance absorption, CoQ10 should be taken with food, in particular, taking it with flaxseed oil or some other oil will enhance absorption.

Q Is CoQ10 safe?
A Coenzyme Q10 is very safe and there have been no serious adverse effects ever reported even with long-term use. Because safety during pregnancy and lactation has not been proven, CoQ 10 should not be used during these times unless the benefit (as determined by a physician) outweighs the risks.

Q Does CoQ10 interact with any drugs?
A There are no known adverse interactions between CoQ10 and any drug or nutrient. However, many drugs adversely affect CoQ10 levels, also CoQ10 is able to mitigate the side effects of these drugs. In addition to adriamycin (discussed earlier), CoQ10 supplementation has been shown to counteract some of the adverse effects of certain cholesterol-lowering, beta-blocker, and psychotropic drugs.

The drugs lovastatin (Mevacor), pravastatin (Pravachol), and simvastatin (Zocor) are used to lower blood cholesterol. They work by inhibiting the enzyme (HMG CoA reductase) that is required in the manufacture of cholesterol in the liver. Unfortunately, these drugs also block the manufacture of other substances necessary for body functions including CoQ10. Supplementing CoQ 10 (100 mg per day) prevents the depletion of CoQ10 in body tissues while on these drugs.

References