

Statins and Co-Q10

Numerous nutrients are needed by the body to maintain optimal health. Some of these, such as vitamins, are not produced by the body and need to be obtained from either nutritional supplements or food. Others are produced by the body, but may still need to be obtained from dietary sources due to depletion or a decrease in natural production associated with aging or illness.

Coenzyme Q-10 (CoQ₁₀) is a vitamin-like compound that belongs to a family of 10 substances designated coenzyme Qs. But CoQ₁₀ is the only one found in human tissue. CoQ₁₀ is present in virtually all cells and is especially high in concentration in the heart, liver, kidneys and pancreas.¹ Within the cells, the majority of CoQ₁₀ is found in the mitochondria, the cellular organelles responsible for energy production.¹ CoQ₁₀ is essential to the energy production cycle that takes place inside the mitochondria, and it also functions as an antioxidant.² However, the benefits of CoQ₁₀ are not limited to its function on a cellular level. CoQ₁₀ supplementation is also beneficial in addressing cardiovascular conditions such as hypertension and congestive heart failure, and it has been shown to reduce heart attack risk.³

Because the body produces adequate amounts of CoQ₁₀, it is not considered a vitamin¹ and is often overlooked in the daily vitamin regimen. However, a recent study reported in *The American Journal of Cardiology* demonstrated a need for CoQ₁₀ supplementation in individuals taking statin medications for the treatment of elevated cholesterol levels.

Statin medications, also known as HMG CoA reductase inhibitors, are effective in inhibiting cholesterol synthesis, thus reducing cholesterol levels by decreasing cholesterol production. In doing so, statins block production of farnesyl pyrophosphate, an intermediate in the synthesis of CoQ₁₀.⁴ Myopathy, or muscle pain, a frequent side effect associated with statin use is believed to be related to a reduction in CoQ₁₀ levels.

According to Giuseppe Caso, MD, MSc, PhD and colleagues at Stony Brook University in New York, some of the myopathic symptoms in patients treated with statins may result from a depletion of CoQ₁₀ and the associated inability of the mitochondria to supply the energy needed for muscle contraction. CoQ₁₀ supplementation may help reverse these symptoms.

Subjects with myopathic symptoms associated with statin use who received supplemental CoQ₁₀ had a 40 percent decrease in pain severity and 38 percent decrease in interference by pain in their daily activities. Sixteen of the 18 participants who received CoQ₁₀ reported less pain compared to three subjects in the control group.

Although this recent study focused on the benefits of CoQ₁₀ during statin therapy, the benefits of CoQ₁₀ are not limited to those taking prescription statin medications. Individuals taking Red

Yeast Rice, a dietary supplement used for the maintenance of optimal cholesterol levels, may also benefit from supplemental CoQ₁₀.

CoQ₁₀ is a readily available and well-tolerated nutritional supplement, the benefits of which are well documented. NSP offers the following CoQ₁₀ nutritional supplements to help meet your daily CoQ₁₀ needs: Co-Q10 (30 mg), Co-Q10 Plus, and Co-Q10 Softgel 75 mg.

References:

1. Jellin JM, Gregory PJ, Batz F, Hitchens K, et al. Pharmacist's Letter/Prescriber's Letter Natural Medicines Comprehensive Database. 8th ed. Stockton, CA: Therapeutic Research Faculty; 2006:pg 351.
2. Linus Pauling Institute. Available at: www.lpi.oregonstate.edu Accessed June13, 2007.
3. Jellin JM, Gregory PJ, Batz F, Hitchens K, et al. Pharmacist's Letter/Prescriber's Letter Natural Medicines Comprehensive Database. 8th ed. Stockton, CA: Therapeutic Research Faculty; 2006:pg 350.
4. Marcoff L, Thompson PD. The role of coenzyme Q10 in statin-associated myopathy. *J Am Coll Cardiol* 2007; 49:2231-2237.