

Statin Drugs May Lower CoQ10 Levels

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Statin drugs (Lipitor, Zocor, etc) , or HMG-CoA reductase inhibitors, are a class of drugs used to lower cholesterol. CoQ10 is a fat-soluble antioxidant that is found in virtually all cell membranes, hence its alternative name "ubiquinone."

Statins work by inhibiting the enzyme HMG-CoA reductase, the enzyme that determines the rate of cholesterol formation.

Some research suggests that statin drugs may interfere with the body's production of Co q10, a substance produced naturally in the body and found in every cell. CoQ10 has a key role in the mitochondria, the part of a cell that produces energy. Coenzyme Q10 is important for the health of the heart, cardiovascular system, brain, teeth, and many other aspects of the human body.

Statins have been found to decrease CoQ10 production as a side effect of their action.

- A Columbia University study in New York found that 30 days of statin therapy (80 mg/day) decreased CoQ10 levels by half.
- Another study by researchers at Kanazawa University in Japan found that smaller doses of statin drugs can reduce CoQ10. After 8 weeks of 10 mg a day statin therapy, CoQ10 levels decreased by 40 percent.

Some researchers suggest that this side effect may counteract any benefits of taking statins.

For example, in an article published in the journal *Biofactors*, cardiologist and researcher Dr. Peter Langsjoen says, "The depletion of the essential nutrient CoQ10 by the increasingly popular cholesterol lowering drugs, HMG CoA reductase inhibitors (statins), has grown from a level of concern to one of alarm."

"With ever higher statin potencies and dosages and with a steadily shrinking target LDL cholesterol, the prevalence and severity of CoQ10 deficiency is increasingly noticeable."

While young adults, those in their twenties and younger, almost always have adequate levels of CoQ10, people particularly vulnerable to statin induced CoQ10 deficiency are those:

- over 50 years of age
- Long-duration endurance exercisers tend to have lower levels of CoQ10.
- Deficiencies in CoQ10 are very common in patients with heart disease, high blood pressure, diabetes, or low HDL cholesterol.
- CoQ10 levels are often low in those avoiding red meat and extremely low in vegans.
- Anyone taking a lipid lowering statin medication.

CoQ10 supplements are usually orange colored tablets or capsules, found in drug stores and health food stores. It is one of the more expensive nutritional supplements. A minimum dosage suggested for coenzyme Q10 (CoQ10) of anyone taking a statin medication at this time is 60mg (you can take more if you like). There are various formulations and methods to extract this supplement so you will need to inquire about the quality from wherever you are purchasing CoQ10.

Coenzyme Q10 in Food

Coenzyme Q10 is found in the highest amounts in red meat products. It is especially high in organ meats such as liver and heart, from which it was first isolated.³ Thus, the combination of cholesterol-lowering statin drugs and a so-called "heart-healthy" regimen free of red meat could dramatically compromise coenzyme Q10 status. However there is also a concern that organ meats tend to harbor a greater level of environmental toxins so if possible you want to only eat organ meats of animals that were raised on organic farms or in regions of low environmental toxic exposure.

Coenzyme Q10 is also destroyed by heat, so meat should not be overcooked to obtain maximum CoQ10 benefit. Boiling has been found to have negligible effect on the survival of CoQ10, while frying substantially reduces CoQ10, from 14 to 32 percent.

Some sources suggest the organs of wild, grass-fed animals have up to ten times more CoQ10 than the organs of grain-fed animals. If you are interested in finding a source of grass-fed animal products local to you, you can do so by clicking on your state at EatWild.com.

Sources

Langsjoen PH, Langsjoen AM. **The clinical use of HMG CoA-reductase inhibitors and the associated depletion of coenzyme Q10. A review of animal and human publications.** *Biofactors*. 2003;18(1-4):101-11.

Mabuchi H, Higashikata T, Kawashiri M, Katsuda S, Mizuno M, Nohara A, Inazu A, Koizumi J, Kobayashi J. **Reduction of serum ubiquinol-10 and ubiquinone-10 levels by atorvastatin in hypercholesterolemic patients.** *Journal of Atheroscler Thromb*. 2005;12(2):111-9.

Rosenfeldt F, Hilton D, Pepe S, Krum H. **Systematic review of effect of coenzyme Q10 in physical exercise, hypertension, and heart failure.** *Biofactors*. 2003;18(1-4):91-100.

Silver MA, Langsjoen PH, Szabo S, Patil H, Zelinger A. **Effect of atorvastatin on left ventricular function and ability of coenzyme q10 to reverse that dysfunction.** *American Journal of Cardiology*. 2004;94(10):1306-10.

Weant KA, Smith KM. **The role of coenzyme Q10 in heart failure.** *Ann Pharmacother*. 2005;39(9):1522-6.