

# Coenzyme Q10 and the Statins

**Coenzyme Q10** (also known as CoQ10 or ubiquinone) is a key enzyme in mitochondrial energy production. It alters ADP to ATP. ATP is effectively the energy source used by high-energy requiring cells in the body (like the nervous system, heart and muscles). Coenzyme Q10 also acts as an anti-oxidant. The young body produces adequate amounts but production of CoQ10 decreases with aging, diabetes, and thyroid dysfunction.

**The statins** (HMGcoA-reductase inhibitors) are one of the most ubiquitous classes of medicines in modern medicine. They include Mevacor, Zocor, Lipitor, Lescol, Crestor, and Pravechol. Red Yeast Rice is the natural source of Mevacor and so it too is a statin. The statins act to lower the “bad” cholesterol (LDL) by blocking the first step of cholesterol production in the liver. They also raise the “good” cholesterol (HDL) and act as anti-inflammatories in the blood vessels. *However, the statins also block the first step in the production of Coenzyme Q10.* Over time the result can be a deficit in the amount of CoQ10 in heart, brain and muscle cells.

Because the statins block production of CoQ10 in the cells, they can have a profound lowering effect on energy availability to all cells, particularly the high energy requiring cells like the brain, heart, and skeletal muscles. Two of the most common side effects of the statins are muscle pain (myalgia) and a sort of fogginess of the mind. Both effects are presumably due to the lower production of CoQ10.

Some CoQ10 can be obtained from raw animal protein. However, cooking animal protein tends to break down CoQ10. Although similar enzymes are found in plants they are not usable by our bodies.

The conclusion, supported by research first presented in March 2005, is that the best way to prevent the side effects of statin therapy is to take large doses of CoQ10. The minimum recommended dose is 200 mg per day. The maximum dose used in the study was 500 mg per day. Patients have taken doses of CoQ10 as high as 2400 mg per day without ill effects.

There is some data suggesting that some forms of fibromyalgia may also be due to inadequate cellular levels of CoQ10. For this reason it is reasonable to try large doses of CoQ10 for a couple of weeks to see if it has effect on fibromyalgia, particularly if statin therapy, or aging, or diabetes, or thyroid disease is also present.



Richard L. Van Buskirk D.O., Ph.D., FAAO

Specialist in Neuromusculoskeletal Medicine