

The many uses of CoEnzyme Q10

Coenzyme Q10, or as it is commonly called, "CoQ10", is a popular nutritional supplement with two primary duties: energy production and antioxidant function. When it comes to energy, we typically think about having more energy for walking around the mall, doing the laundry, and mowing the lawn. However, on a more basic level, our cells need energy to perform such critical processes as absorbing nutrients, repairing our DNA, and getting rid of toxins.

Our cells produce most of their energy in tiny powerhouses called mitochondria (those of you who are CSI fans might recognize these as the source of "mitochondrial DNA"). CoQ10 is fittingly most concentrated in the mitochondria.

Without Coenzyme Q10, our cells are unable to carry out these necessary processes to the fullest. A lack of cellular energy means less than optimal cell function, which can spell health problems.

Take, for example, people with a condition known as congestive

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heart failure. For these folks, their heart muscle cannot pump strongly enough, and blood begins to collect within the heart instead of being pumped out to the body. Research has shown us that when congestive heart failure patients take CoQ10, the muscle cells of the heart can produce more energy and thus pump harder, which leads to improvements in the condition.

Aside from boosting energy, the other major function of CoQ10 is that of an antioxidant. Remember that antioxidants act as protection against damaging "free radicals." A simple analogy to help understand free radicals and antioxidants is the fireplace. If a spark were to fly out of the fireplace and onto the carpet, the

carpet would be damaged. In our body, those damaging sparks are the free radicals. Antioxidants, on the other hand, act as a fireplace screen, preventing the sparks (free radicals) from damaging the carpet (our bodies).

CoQ10 is a powerful antioxidant, protecting our cells from harm and the aging process itself. Recent studies have suggested that CoQ10 supplements can have benefits for those with neurodegenerative conditions, particularly Parkinson's disease. While it is not entirely clear why these patients improve with the addition of CoQ10, the likely reason is a combination of its antioxidant properties protecting brain cells from oxidative damage, and its energy boosting properties enhancing overall brain cell function.

New data published in the August 2004 edition of Clinical Biochemistry found that blood levels of CoQ10 are lower in patients with coronary artery disease than in healthy patients. Interestingly, the levels of CoQ10

in the body decrease steadily as we age. Replacing this dwindling CoQ10 may prove an important part of an anti-aging plan.

A special note to those of you taking cholesterol-lowering medicines called statins: statin medications drastically reduce the levels of CoQ10 in your body. (On a technical note, statins block the biosynthetic pathway of an important CoQ10 side chain as they block the production of cholesterol.) Popular statins available today include Lipitor, Mevacor, Zocor, Pravachol, and the new Crestor.

A study in the June 2004 medical journal Archives of Neurology showed that Lipitor cuts the levels of CoQ10 in half, prompting the authors to state, "Even brief exposure (as little as two weeks) to atorvastatin (Lipitor) causes a marked decrease in blood CoQ10 concentration." A common side effect of statin medications is muscle ache and fatigue. This may well be caused by an inability of muscle cells to produce enough energy to function nor-

mally in the absence of adequate levels of CoQ10. If you are taking a statin medication, as millions of Americans are, talk to your doctor about adding CoQ10.

Because CoQ10 works on such a fundamental level in our bodies, it has many potential applications that at first seem unrelated. Whether it's improving heart and brain function, reducing blood pressure, enhancing blood vessel function, or even helping to protect our gums, CoQ10 is a nutritional "All-Star." (Note - since CoQ10 is a fat-soluble nutrient, it is best to take it along with food that contains some fat rather than on an empty stomach.)

As always...if there is anything I can do to help, just ask.

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