Combining CoQ10 and Selenium Reduces Cardiovascular Mortality

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An important study from Sweden found that combining CoQ10 with selenium can dramatically reduce cardiovascular mortality. This nutrient combination has also been found to:

- improve heart function
- improve quality of life
- reduce the number of days a patient stays in the hospital
- lower cardiovascular mortality risk by 49%
- and provide protection years after the subjects stopped taking the supplements

Cardiovascular disease is the leading cause of death both globally and in the US. It kills more than 17 million people worldwide every year -- more than all forms of cancer combined.

Supplementing with CoQ10 and selenium could be an important lifesaving combination for protecting against cardiovascular mortality.
Slashing Cardiovascular Mortality

CoQ10 and selenium are both involved in the management of cellular energy. Each compound works to influence energy production by organs throughout the body. They also help to protect against tissue-damaging oxidative stress. The doses used in the research were CoQ10 200mg and SELENIUM 200 mcg daily.

The patients who took the combination of CoQ10 and selenium also had better scores on heart function compared to those taking the placebo, as determined by an echocardiogram. In addition, levels of a biomarker for heart failure called NT-proBNP (“N-terminal pro-brain natriuretic protein”) were significantly reduced, which is a favorable finding that indicates reduced cardiovascular disease risk. This initial study established that supplementing with these two nutrients could cut the cardiovascular death rate by more than 50%, while improving heart function and significantly reducing the risk of further cardiovascular disease in the survivors.

Quality of Life

The goal in extending lifespan is to not just live longer, but to live better. In fact, most aging individuals will tell you that their quality of life is more important than simply extending lifespan. CoQ10 and selenium can beneficially impact both.

For this follow-up analysis from the initial Swedish study, when subjects were matched by age, gender, and baseline heart function, the difference was clear. While quality of life scores declined in all subjects (as it does in so many people as they age), the decline was significantly less sharp in the supplemented CoQ10/selenium group than in the placebo group.

In addition, over the 4-year period, the people in the supplemented group spent 246 fewer days in the hospital than those in the placebo group. Considering the risks posed by being in the hospital—including medical errors, infections, pneumonia, and more—spending fewer days in the hospital could do more than improve quality of life; it could be a potential lifesaving benefit in and of itself.
**Long-Term Benefits**

**CoQ10** and selenium were still effective at reducing cardiovascular deaths 10 years after the start of the study. This means that **CoQ10** and selenium continued to extend their life-saving benefits years after the participants stopped taking the supplements!

At the ten-year mark, the risk of dying from any cardiovascular cause (heart attack, stroke, congestive heart failure, and others) was 49% lower in those who had originally received supplementation, compared with those who had not. This effect was evenly divided across the various forms of heart disease, including ischemic heart disease and in those with diabetes. There was no difference seen in men vs women.

The data from this study showed that 4 years of supplementation with **CoQ10** and selenium reduces the risk of dying from heart disease, reduces the risk of developing heart disease to begin with, and helps preserve the quality of life in the process.

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**WHAT YOU NEED TO KNOW**

**CoQ10** and Selenium Reduce Cardiovascular Mortality

**CoQ10** has a long history of use in boosting cellular energy levels and making mitochondria more efficient at releasing energy from molecules found in food.

- Selenium is an essential cofactor for many of the enzymes in our natural cellular free radical scavenging systems.
- Studies now show that **CoQ10** and selenium have effects that help protect against tissue-damaging oxidative stress.
- A series of new human studies from Europe shows that the combination of **CoQ10** and selenium supplements reduce heart disease risk and improve quality of life.
Why CoQ10 and Selenium Work Together

The reason the combination of CoQ10 and selenium has such a profound impact on cardiovascular disease is because of the way they work together to reduce oxidative stress, which is known to play a major role in accelerating aging and disease—including the development of cardiovascular disease.

Oxidative stress is created by everyday processes such as breathing and eating. For example, when mitochondria convert molecules from the food we eat into energy the cells can use, it creates an enormous amount of oxidative stress, making them vulnerable to damage. With time, mitochondria lose their ability to efficiently manage energy transfer through the flow of electrons. While we can’t avoid oxidative stress, we can take proactive steps to combat it. That’s where CoQ10 comes in.

CoQ10 reduces the oxidative stress, minimizes the damage to fragile mitochondria, and helps generate new mitochondria. All of this adds up to a more “fuel-efficient” body that is better equipped to carry out its necessary functions. This is especially important for the heart, which requires a tremendous amount of energy to function properly.

The problem is that natural levels of CoQ10 begin to fall as early as age 20, and by the time we reach 80, CoQ10 levels can be reduced by as much as 50% compared with early in life. This is why CoQ10 supplementation is so strongly recommended for older adults. (you can’t get CoQ10 from food)** In addition, when taking any STATIN medication for cholesterol—CoQ10 levels drop since the mechanism of reducing, also reduces production of CoQ10.

Selenium may better our bodies’ ability to produce and accumulate CoQ10. If there is a deficiency in selenium, our bodies can only make 67% of the amount of CoQ10 that they do make. A vital selenocysteine-containing enzyme called thioredoxin reductase actively recycles exhausted CoQ10 (ubiquinone) molecules and turns them into active, oxidative stress-fighting ubiquinol molecules. In other words, selenium improves the efficacy of CoQ10.

But just as we need ample selenium to produce and accumulate CoQ10, we also need ample CoQ10 to make the selenocysteine-containing enzymes. Thus, there appears to be an important reciprocal relationship between CoQ10 and selenium.

Utilizing this combination of nutrients is especially important for aging individuals, whose CoQ10 and selenium levels fall so rapidly.
NOT ALL CoQ10 IS THE SAME
In a confusing feature of biochemical terminology, "CoQ10" may in fact refer to at least two quite different molecular forms. Ubiquinone is the more familiar term, and is the form in which many supplements are sold. But ubiquinone is the less-active form of the compound because it already exists in its "oxidized" state, which means it contributes little to preventing the oxidation of other molecules.
Ubi

quinone, on the other hand, is in the chemically "reduced" state, and is therefore capable of being oxidized by other molecules, which in turn relieves them of oxidative stress. Selenium is capable of converting ubiquinone into ubiquinol, which is how it recycles the active CoQ10 molecule. Studies also show that ubiquinol is better absorbed from the human gastrointestinal tract, and is therefore more effective than the ubiquinone form at improving cellular energy function.
My patients who follow my nutrient recommendations have been getting at least the equivalent of 200 mg of ubiquinone CoQ10 in each 100-mg capsule of ubiquinol that I recommend.

Summary
We have long known that supplementation with CoQ10 is an effective means of making our mitochondrial energy-releasing processes operate more efficiently and with less stress to cellular structures. And selenium plays an important role in powering enzyme systems that clean up the damage caused by oxidative stress.
A large European study has now demonstrated that CoQ10 and selenium supplements work together to enhance cellular function in ways that translate directly into improved human health. Compared to placebo recipients, aging adults who supplemented with the nutrient combination experienced lower rates of cardiovascular death, fewer days in hospitals, and improved quality of life—and those benefits far outlasted the duration of the supplement period.

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