MED SHADOW Balancing Drug Risks & Benefits

Pros & Cons of Taking CoQ10

People taking a wide range of medications have to be careful about using CoQ10 and some may need to avoid it altogether

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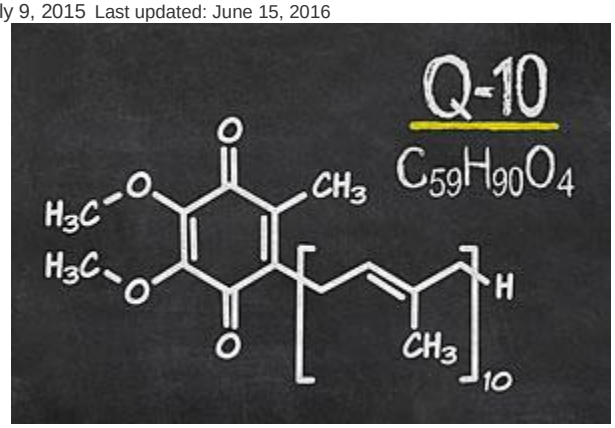

Americans spend more than $28 billion on vitamins and supplements each year and increasingly coenzyme Q10 (CoQ10) is on their shopping lists. Devotees of the supplement say it can lower blood pressure, reduce migraines, improve symptoms of Parkinson's and depression, ward off dementia and even halt the aging process. Not surprisingly, there are naysayers who says these claims are overblown. In addition, people taking a wide range of medications — including drugs for diabetes, blood thinners and beta blockers for high blood pressure — have to be careful about using CoQ10 and some may need to avoid it altogether.

Potential Drug Interactions

The University of Maryland Medical Center (UMM) is a good resource for information regarding the effects (positive and negative) of CoQ10 on certain medications and conditions. For example, it might help reduce the toxic effects certain chemotherapy drugs — daunorubicin (Cerubidin) and doxorubicin (Adriamycin) — on the heart.

On the other hand, there is some concern that CoQ10 might lower the effectiveness of some chemotherapy drugs. "There have been no well-controlled studies proving these interactions," says Natalia Lukina, MS, founder and CEO of Vital Formulas, LCC. "People undergoing chemotherapy should consult their physicians."

CoQ10 might enhance the effectiveness of certain blood pressure medications by adding to their ability to lower blood pressure. While this can be a benefit, it's important to make sure your health care provider is aware that you are taking CoQ10 so that your blood pressure can be closely monitored and your medication adjusted accordingly to avoid low blood pressure (hypotension). Symptoms of low blood pressure include dizziness and fainting. If left untreated, low blood pressure can become life-threatening.

If you're taking a blood thinner, do not use CoQ10 without consulting your healthcare provider. "CoQ10 can reduce the efficacy of Warfarin, a blood thinner," explains **Adam Splaver, MD, a cardiologist based in Hollywood, Florida.** "Therefore, it is important to always inform your physician before you begin any vitamin supplementation and monitor your blood thinner levels a little more often when initiating such therapy."

The Cleveland Clinic also issues this advisory in its CoQ10 guidelines:

"CoQ10 may lower blood sugar levels, and it should be monitored in patients with diabetes or patients taking medications or supplements that are known to lower blood sugar."

The well-known medical center also raises a red flag on aspirin use and CoQ10.

"Caution is advised in people who have bleeding disorders or who are taking drugs that increase risk of bleeding, such as aspirin. For example, patients on CoQ10 are usually asked to discontinue use one week prior to surgery."

Weighing the Risks & Benefits

Deciding whether to add CoQ10 to your daily health arsenal can be tricky. "Levels of CoQ10 produced by the body decrease as we age," Lukina says, "Therefore, in my opinion, most people over 50 would benefit from taking CoQ10. Many feel a noticeable positive effect within days."

The Mayo Clinic, on the other hand, has a long list of warnings and dosing suggestions depending on what ailment is being treated.

How CoQ10 Works

What is CoQ10 and how does it work in the body?

Coenzyme Q10 occurs naturally in the body and serves two primary purposes: to support cell production and act as a natural antioxidant. Ubiquinol, the natural compound that is considered the more easily converted form of CoQ10, is required for 95 percent of people's cellular energy production.

"It's the strongest lipid-soluble antioxidant available, protecting your body's cells from harmful oxidative stress," **Dr. Splaver** says. "Without proper ubiquinol levels, your body produces less energy and may be more susceptible to cellular damage from free radicals that can threaten a healthy heart or your immune system and energy levels."

"CoQ10 functions as an antioxidant," echoes Abby Wadsworth, MS, RD, CD, owner of Whole Health Nutrition in Williston, Vermont. "It's concentrated in organs that have a higher energy requirement, including the heart, liver, kidneys and pancreas."

While CoQ10 appears naturally in the body, some people do not produce enough of this important enzyme and everyone loses some of the ability to generate this compound as they age. The form produced in the body and provided in a supplement are virtually the same with the exception that "they go through different oxidative states," according to Jacob Teitelbaum, MD, Director of the Practitioners Alliance Network and author of numerous books.

Primary dietary sources of CoQ10 include oily fish (such as salmon and tuna), organ meats (such as liver), and whole grains.

FOOD	SERVING	COENZYME Q_{10} (MG)
Beef, fried	3 ounces*	2.6
Herring, marinated	3 ounces	2.3
Chicken, fried	3 ounces	1.4
Soybean oil	1 tablespoon	1.3
Canola oil	1 tablespoon	1.0
Rainbow trout, steamed	3 ounces	0.9
Peanuts, roasted	1 ounce	0.8
Sesame seeds, roasted	1 ounce	0.7
Pistachio nuts, roasted	1 ounce	0.6
Broccoli, boiled	½ cup, chopped	0.5
Cauliflower, boiled	½ cup, chopped	0.4
Orange	1 medium	0.3
Strawberries	½ cup	0.1
Egg, boiled	1 medium	0.1

*A 3-ounce serving of meat or fish is about the size of a deck of cards.

Approximately 14%-32% of coenzyme Q10 was lost during frying of vegetables and eggs, but the coenzyme Q10 content of these foods did not change when they were boiled. Table courtesy the Linus Pauling Institute, Oregon State University.

Some Food Sources of Coenzyme Q_{10}

While a balanced diet can help some people maintain good CoQ10 levels, many experts encourage the use of supplements for healthy individuals over 50, for people with particular health conditions or those taking certain medications. While CoQ10 supplements are generally well-tolerated, they can cause nausea, diarrhea and a skin rash, particularly at high dosages. Some people are also allergic to ubiquinol and should seek immediate medical attention if they experience difficulty breathing, tightness in the chest, hives, rash or swelling of the mouth, face, lips or tongue.

CoQ10 is available as hard shell and soft gel capsules, an oral spray and tablets. Recommended dosages vary widely though healthy adults taking CoQ10 as a dietary supplement are usually advised to take between 30 and 200 milligrams per day.

Here's a list of conditions that many experts say can benefit from CoQ10 supplementation.

Heart Health

CoQ10 has been shown to be an effective treatment for many heart-related maladies. "It's used for congestive heart failure, preventing blood vessel complications caused by heart bypass surgery, and high blood pressure," says Lukina. "It assists in maintaining the normal oxidative state of LDL cholesterol, helps assure circulatory health and supports optimal functioning of the heart muscle."

A recent study concluded that a 12-week supplementation program with CoQ10 in patients who have had a heart attack can improve blood pressure and serum HDL ("good") cholesterol, as well as lower LDL ("bad") cholesterol levels, thereby decreasing the risk of a subsequent heart attack. Participants in this particular study took 200 mg/day of CoQ10.

In a February 2015 review of the literature, Spanish researchers surmised that "patients with CoQ10 treatment were significantly less likely to require inotropic drugs [drugs that increase contractility of the heart muscle] after surgery and to develop ventricular arrhythmias after surgery."

Study authors also said, "Since none of the clinical trials included in this review report any adverse effects associated to CoQ10 administration, and coenzyme Q10 has been demonstrated to be safe even at much higher doses in other studies, we conclude that CoQ10 should be considered as a prophylactic treatment for preventing complications in patients undergoing cardiac surgery with cardiopulmonary bypass."

CoQ10 is also recommended at times for those patients using cholesterol-lowering statins, such as Crestor and Lipitor. Statins lower the body's levels of CoQ10. "Statins are notorious for causing CoQ10 levels to drop," **Dr. Splaver** notes. "This is clinically manifested by the muscle aches and pains that many individuals report when being on statin therapy. As you deplete your body's natural ubiquinol stores, you force the cell to switch its source of energy production to anaerobic metabolism, thereby increasing production of lactic acid — and hence, the muscle aches and pains."

Immune Function and Inflammatory Pathways

Inflammation is one of the immune system's first responses to injury or infection and is also thought to contribute to the development of serious diseases, including heart disease, cancer, arthritis and diabetes. CoQ10 has been shown to improve immune function and decrease systemic inflammation in many cases, including for recurrent infections due to metabolic diseases, diabetes and clinical depression.

Parkinson's Disease

According to a 2005 Swiss study, CoQ10 slows the functional decline of Parkinson's disease. But a recent study published in the Journal of the American Medical Association Neurology showed no real benefits of high-dosage CoQ10 in people with early Parkinson's disease. Study authors wrote that while CoQ10 "has been shown in preclinical Parkinson disease models to reduce the loss of dopamine neurons, and was safe and well tolerated in early-phase human studies, and a previous phase II study suggested possible clinical benefit," it showed no evidence of clinical benefit.

Dementia and Alzheimer's

A recent study suggests that dementia could be predicted by serum CoQ10 levels. Researchers report that although several previous studies had reported no significant differences in serum CoQ10 levels between patients with and without dementia (including Alzheimer's disease), this study demonstrates for the first time that a lower serum CoQ10 level is associated with a greater risk of dementia. These findings suggest that assessing serum CoQ10 levels could be useful for predicting the development of dementia.

Another study explored the use of formulas containing several antioxidants, including CoQ10, to help slow the progression of Alzheimer's Disease. Study authors concluded, "We suggest the use of multi-targeted approaches by formulas containing one or more antioxidant compounds may be more promising than single-agent approaches."

Fatigue and Depression

Millions of Americans are affected by fatigue and/or depression each year. A 2014 review of the literature regarding fatigue suggests that low levels of CoQ10 were consistently associated with fatigue. Another recent study showed that CoQ10 supplementation of 500 mg/day improved fatigue and depression in patients with multiple sclerosis. And yet another study suggests that a combination of several supplements, including CoQ10, is a viable remedy to significantly reduce fatigue and restore mitochondrial function in people with chronic disease.

According to Consumer Reports, CoQ10 supplementation can also reduce the occurrence of migraines. "In one small study, taking 150 mg per day cut the number of days with migraines in half in most of the patients," notes the publication. "Another study found similar results with 100 mg taken three times daily."

CoQ10 and Aging

CoQ10 levels in our body's cells decrease as we age, hence the plethora of anti-aging creams and lotions that tout the benefits of CoQ10. Plus, its antioxidant properties work to eradicate free radicals, which damage cells. But can it actually make you look younger?

Several studies show that CoQ10 does, indeed, work to help combat the signs of aging skin. For instance, one study showed that CoQ10 fights the signs of aging starting at the cellular level and promotes the use of topical creams containing CoQ10 as a possible anti-aging solution.

Another study found that the topical application of CoQ10 not only prevented detrimental effects of photoaging (sun damage), but also reduced wrinkle depth.

Dosages

Clearly, it's a good idea to talk to your healthcare provider and possibly a knowledgeable dietician or nutritionist before adding CoQ10 or any new supplements to your regimen. While CoQ10 is generally considered to be safe for healthy adults, it can be potentially harmful for people with certain conditions or those taking certain medications.

Dr. Splaver makes the following recommendations for CoQ10 dosages (doses of ubiquinol are lower than CoQ10, because ubiquinol is already in the form the body uses):

- If you are generally healthy and not taking any medications: 100 mg of CoQ10 daily or 25 mg of ubiquinol daily
- If you are taking a beta blocker: 200 mg of CoQ10 daily or 50 mg of ubiquinol daily
- If you are on statins or you exercise regularly: 400 mg of CoQ10 daily or 100 mg of ubiquinol daily

Since CoQ10 is fat-soluble, it's better absorbed by the body if taken with a meal that contains fat. The UMM also suggests that taking it at night may increase your body's ability to absorb it.

One last important note: Most experts note that CoQ10 supplements should not be given to children 18 and under unless doing so is advised by a healthcare practitioner.

You'll most likely find 2 variations of CoQ10 on the shelves of the drugstore: ubiquinol and ubiquinone. Ubiquinone is another name for coQ10 while ubiquinol is an altered form. Both are essentially equivalent.

http://medshadow.org/features/pros-cons-of-taking-coq10/