

Should I take coenzyme Q10 with a statin?

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As heart disease continues to be the leading cause of death in America, statins are increasingly popular in current medical therapy. Statins, or 3-hydroxy-3-methylglutaryl coenzyme A (HMG-CoA) reductase inhibitors, are most commonly used to treat hyperlipidemia and as preventive therapy for coronary artery disease and stroke. Additionally, statins may benefit those with Alzheimer's disease, cancer, renal disease, osteoporosis, multiple sclerosis, macular degeneration, glaucoma, or rheumatoid arthritis.¹

The most common side effects associated with statin use include constipation, diarrhea, dizziness, headaches, rashes, and upset stomach. Typically these resolve with time. More serious, but less common, adverse events are liver problems and myopathy, which can range from slight myalgias to severe rhabdomyolysis resulting in kidney failure and death.² Preventing statin-induced myopathy is one focus of coenzyme Q10 (CoQ10, or ubiquinone) use. With statin prescriptions on the rise and a vast amount of information available through the Internet, patients are asking more questions about taking CoQ10 supplements.

The statin-coenzyme Q10 connection

CoQ10 is a fat-soluble compound vital for a number of processes related to energy metabolism. It also acts as an antioxidant scavenger. The compound is present in virtually all cells, with the highest levels in the heart, brain, liver, and kidneys.³⁻⁵ Although small amounts of the compound are available in certain foods such as meats and seafood, most CoQ10 is manufactured in the cells.

In addition to inhibiting HMG-CoA reductase, statins are believed to halt the production of mevalonate, a CoQ10 precursor. In this way, statins may also decrease CoQ10 levels in the body. Evidence suggests that low CoQ10 levels may cause mitochondrial dysfunction, which results in myopathy.⁶

Benefits are inconsistent

There is considerable evidence that patients who take statins have lower levels of endogenous CoQ10.⁷ However, a 2001 randomized crossover trial of 12 participants found no significant decrease in CoQ10 levels after initiation of selected statins.⁸

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Two other studies found that CoQ10 use reduced the effects of myopathy in patients taking statins, but this research was for an investigational cancer treatment using small numbers of participants who were taking very high dosages of statins. It is not known if the results would be the same for patients taking typical dosages of statin drugs.⁹ CoQ10 supplements may be effective for other conditions, such as heart failure and Parkinson's disease; however, evidence supporting these indications is inconsistent.

When taken as a supplement, CoQ10 appears to be well tolerated. Fewer than 1% of patients in clinical trials report GI distress. CoQ10 supplements could adversely interact with warfarin. Additionally, CoQ10 may have hypotensive and hypoglycemic effects, so patients with low blood pressure or diabetes should be monitored closely.⁴ CoQ10 does not affect the cholesterol-lowering effects of statins. The most common dosages are 50 to 200 mg daily in divided doses. Patients should not take more than 300 mg per day because higher dosages have been associated with elevated levels of liver enzymes.⁷

What patients must know

Patients should be counseled to contact their health care provider if they develop severe muscle aches, weakness, fever, or any other side effect while taking these drugs. Consider assessing baseline creatine phosphokinase and liver enzymes with any new statin prescription.

When patients ask about supplementing statins with CoQ10, explain that available evidence does not support this practice. However, when taken at the recommended doses, CoQ10 likely poses little health risk. Patients should also be reminded of the proven benefits of statins, as well as the importance of lifestyle changes such as eating a low-fat diet and exercising regularly. □

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Statins are prescription drugs that decrease the amount of cholesterol in the body. Atorvastatin (Lipitor) and simvastatin (Zocor) are two commonly prescribed statins, but there are several others, including some that are a combination of a statin and another drug. Ask your health care provider or pharmacist if you are not sure if you are taking a statin.

Coenzyme Q10 (also known as CoQ10 or ubiquinone) is a compound that helps produce energy for the cells. It also has antioxidant properties. Small amounts of CoQ10 are present in certain meats and seafood. CoQ10 can also be purchased as a supplement.

Why statins are prescribed

High levels of cholesterol raise the risk of heart attack and stroke, so statins are prescribed to prevent these health problems. Research suggests that statins may do more than just lower cholesterol. Statins may be helpful to treat or prevent problems such as Alzheimer's disease, kidney disease, cancer, and bone fractures. But more studies are needed before statins will be prescribed to treat these problems.

The safety of statins has been studied at length. These drugs are generally quite safe. The most common side effects are minor and most often go away over time. These side effects include constipation, upset stomach, diarrhea, gas, heartburn, stomach pain, headache, dizziness, and rash.

A much less common side effect is liver dysfunction, which usually goes away after stopping the drug. If you are taking a statin, your PA or doctor will order a blood test from time to time to check your liver function. If you notice dark urine, yellowed eyes, fatigue, nausea, or stomach pain, you should contact your PA or doctor at once.

What is myopathy?

Another rare side effect of statins is muscle pain and weakness. This is a condition called myopathy. When the signs and symptoms are recognized early, myopathy goes away after stopping the statin. In severe cases, myopathy can lead to kidney damage or even death. Scientists have not yet determined why myopathy occurs. Some researchers think that statins reduce your body's CoQ10 levels, which may lead to myopathy. The signs and symptoms of myopathy include severe muscle weakness, tenderness, and pain with fever or extreme fatigue. You should notify your PA or doctor at once if you notice any of these problems.

Coenzyme Q10

Evidence shows that CoQ10 levels are decreased with chronic statin use. It is thought that low CoQ10 levels result in myopathy. Some health care providers advise patients who are taking statins to take CoQ10 supplements to prevent myopathy. CoQ10 is also used to treat several other health problems, such as heart failure and Parkinson's disease. However, not enough studies have been done to prove if taking CoQ10 supplements prevents myopathy or is helpful for any other medical condition.

The typical dosage of CoQ10 varies from 50 to 200 mg per day in divided doses. The cost increases with higher doses but averages \$30 to \$60 per month. It is important to know that, unlike prescription drugs, dietary supplements are not strictly regulated. The purity and potency of ingredients may vary. Some supplement companies use independent testing to ensure high standards. One group that provides such testing is the US Pharmacopeia (USP). For a list of USP-verified products, refer to <http://www.usp.org/USPVerified>.

CoQ10 has been shown to be safe in clinical trials. Fewer than 1% of patients experience side effects such as diarrhea and upset stomach. CoQ10 may interact with warfarin (Coumadin), insulin, or blood pressure medications. Talk to your health care provider before taking CoQ10 or any other supplement.

A healthy lifestyle is the best supplement

The evidence is clear that statins reduce the risk of heart disease and stroke. In addition to taking statins and other medicines as prescribed by your PA or doctor, there are steps you can take to improve the health of your heart. Cut back on foods high in saturated fat, trans fat, cholesterol, and sodium. Do at least 30 minutes of aerobic exercise on most days of the week, and maintain a healthy weight. If you smoke, talk to your health care provider about quitting. There are new treatments that can help. Limit your alcohol intake to 1 or 2 drinks per day. Have your blood pressure and cholesterol checked regularly. Understand your target blood pressure and cholesterol levels, and take responsibility for keeping your levels at or below the target.

With these lifestyle changes, you can lower your risk of heart attack and stroke. Be sure to talk to your PA or doctor if you have any questions about any medications or supplements you are taking. □

