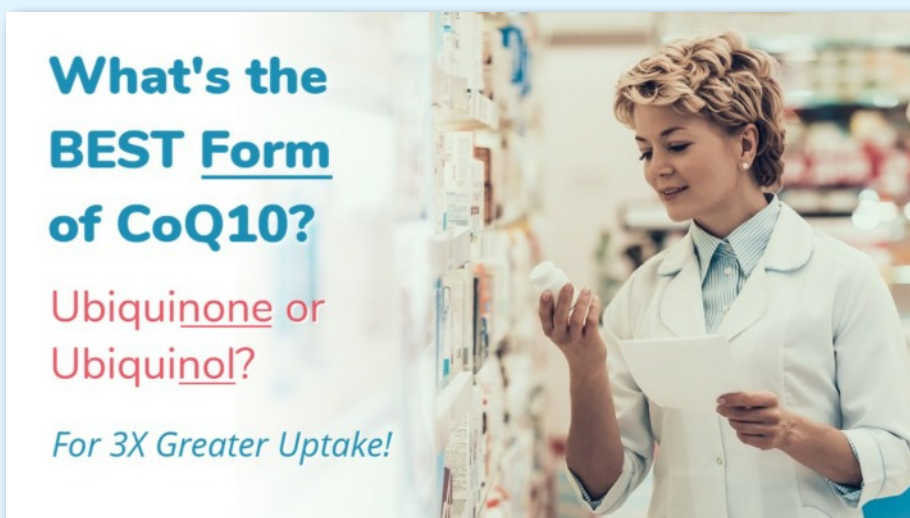


CoEnzyme Q10 Update

“It’s the ubiquinone form of CoQ, not the ubiquinol form, that is synthesized in human cells.”

The CoQ marketing debate continues between ubiquinol vs ubiquinone. We are starting to see commercials and stories about why their product is the best. It’s usually a social media influencer that represents a product that contains the reduced form of CoQ as ubiquinol that stirs the conversation. So, you may be asked to defend your product choice. We’ve discussed this on previous videos, and you can print up the transcript to the right for your patient.

Let’s talk about some new data to support your choice, as well as lab values to optimize treatment. I can see why this subject can be misleading. ubiquinol is the reduced form, and therefore, donates an electron. So, ubiquinol is an antioxidant. Everyone wants more antioxidants, right? But most people are not aware that, “Since ubiquinol donates an electron, it’s also much less stable. To be fair, ubiquinol is known for important lipid-soluble antioxidant activity, so it does protect lipoproteins from lipid peroxidation. ubiquinol is also capable of regenerating the active form of vitamin E.”



Ubiquinone is oxidized and as such is an electron acceptor. So, at first glance, an inferior product. However, “It’s the ubiquinone form of CoQ, not the ubiquinol form, that is synthesized in human cells. And research shows supplemental intakes of Coenzyme Q10 in the ubiquinone form will result in a statistically significant increase in the concentration of ubiquinol in the blood circulation.”

You can see two great references to the right that discuss the comparison of the two forms clinically, particularly as they pertain to heart disease. One author, Bill Judy PhD,

worked with Dr. Carl Folkers, the chemist who determined the structure of the Coenzyme Q10 molecule. Dr. Judy came to Illinois to speak at a conference we held in the 90’s and shared he was aware of several cases of breast cancer that recovered with 400 mg of CoQ, and that his goal for patients was to double their blood levels. It was Dr. Judy who taught me that “Coenzyme Q10 (CoQ10) is a natural and essential cofactor in mitochondrial health. It is the primary ‘redox coupler’ in the respiratory chain, a potent free radical scavenger, and a superoxide inhibitor.”

The other paper goes into greater depth to determine from

the medical research, which form is superior. “Researchers identified 238 randomized controlled trials for ubiquinone and 35 for ubiquinol, which were sorted by medical application. 23 studies of ubiquinone and 5 of ubiquinol were included to analyze their potential to prevent cardiovascular disease. These 28 studies were compared according to the ability of the given supplements to reduce cardiovascular mortality in patients with heart failure.”

They went on to say that, “A slightly better water solubility and a lack of understanding absorption and transfer of CoQ10 (ubiquinone) and CoQH2 (ubiquinol) have led to misleading interpretations pushing CoQH2 (ubiquinol) as a more bioactive form.

Therefore, it is important to notice that:

1. CoQH2 (ubiquinol) is very unstable and under normal conditions oxidized to CoQ10 (ubiquinone),
2. CoQH2 (ubiquinol) has to be oxidized to CoQ10 (ubiquinone) before it can be absorbed in enterocytes,
3. the bioavailability of CoQ10 (ubiquinone) and CoQH2 (ubiquinol) mainly depends on crystal dispersion status and carrier oil composition.”

The authors went on to say that selenium can be an important addition to CoQ therapies, and statins inhibit the production of natural CoQ. So, anyone taking a statins should supplement with additional CoQ. They also mentioned that in the trials that were reviewed, all patients proceeded with their previous medication (statins, antihypertensives, and others), and no interactions between CoQ10 and medicines could be observed. Authors noted that the dose of ubiquinone was from 60-300 mg per day, whereas ubiquinol doses were higher, often up to 600 mg per day. So, cost was another reason ubiquinone was preferred over ubiquinol.

The question I’ve always asked is, how much CoQ is enough? “The Cleveland Clinic found CoQ concentrations range from 0.36 to 1.59 mcg/mL. Unsupplemented normal healthy individuals, who

are not elderly, should have a plasma CoQ10 concentration of approximately 0.8 mcg/mL. The current consensus among CoQ10 researchers is that a plasma CoQ10 concentration of at least 2.5 mcg/mL is required for significant benefit from Coenzyme Q10 in the adjuvant treatment of patients with heart failure. In patients with neurodegenerative diseases, plasma CoQ10 concentrations higher than 3.5 mcg/mL are required for therapeutic effect.”

Viewers may remember that Biotics Research was the first company to make CoQ available in the United States market. In the early days, they extracted it from neonatal bovine heart tissue. Realizing that COQ is fat soluble, Biotics used their emulsification technology to make it water dispersible. Their emulsification technology makes CoQ 3X more absorbable than the dry form. Biotics has 2 forms of CoQ in the ubiquinone form, CoQ-Zyme 30, a 30 mg tablet and CoQ-Zyme 100 Plus that contains 100 mg of CoQ as well as the methylated B vitamins to support mitochondrial health.

A benefit that most people are not aware of is the 80 mcg of SOD and catalase added to the formula. To give you some perspective, a single unit of extra-cellular SOD quenches billions of free radicals. Let’s say one billion for some easy math. Each mcg of SOD contains 6.4 units of activity. So, if we multiply 80 mcg times 6.4 units, we see each capsule quenches well over 512 billion free radicals. That’s a nice addition to the 100 mg of emulsified CoQ.

I could continue to quote evidence from both articles, but the point is production of Coenzyme Q10 declines with age and is disturbed by environmental toxins and prescription meds. And if someone is fighting chronic illness, especially heart disease, Coenzyme Q10 as ubiquinone should be considered and gathering baseline blood levels is encouraged.

Thanks for hanging in there with me. I look forward to being with you again next Tuesday.