UM-CDG-087 Coenzyme Q10	Approved By: Director, Health Services	Effective Date: 10/20/2025

This Policy applies to all SECUR affiliates, associates, and subsidiaries.

Approved by Courtney Gonzales, Director of Health Services on behalf of the Utilization Management Committee.

PURPOSE

This coverage determination guideline serves to address coenzyme Q10. Coenzyme Q10, also known as CoQ10 or ubiquinone, is a naturally occurring antioxidant found in nearly every cell of the body, particularly in the mitochondria where it plays a critical role in energy production. It helps convert nutrients into adenosine triphosphate (ATP), the primary energy currency of cells. CoQ10 also protects cells from oxidative damage caused by free radicals, which can contribute to aging and various health conditions. Although the body produces CoQ10 naturally, levels may decrease with age or due to certain medical conditions, including heart disease, neurodegenerative disorders, and the use of some medications like statins.

For SECUR Health Plan members, National Coverage Determinations (NCD) and Local Coverage Determinations (LCD) will be applied to requests when applicable. SECUR Health Plan Coverage Determination Guidelines (CDG) will be utilized in the absence of an appropriate NCD and/or LCD.

DEFINITIONS

None

POLICY

SECUR Health Plan has developed this coverage determination guideline for serum or other body fluid testing for levels of Coenzyme Q10 (CoQ10 or Q10), also known as ubiquinone, ubidecarenone, coenzyme Q, for all diseases. Q10 supplementation is purported to:

- Prolong life and prevent age-related functional declines
- Inhibit the development and/or progression of atherosclerosis
- Have value as an adjunct to conventional medical therapy in the treatment of congestive heart failure, conventional angina therapy, and cancer
- Is protective against myocardial damage during ischemia-reperfusion during cardiac surgery
- Is beneficial in the treatment of hypertension, cardiovascular disease and diabetes
- Plays a role in neurodegenerative diseases, such as Parkinson’s disease, Huntington’s disease, Friedreich’s ataxia
- Enhance athletic performance
- Enhance fertility

However, scientific indications for Q10 supplementation, except as anecdotally reported for rare mitochondrial encephalomyopathies, are poor and/or controversial, as are indications for Q10 testing by any methodology.

Q10 is a highly lipophilic molecule with a chemical structure similar to vitamin K. Its most prominent role is to facilitate the production of adenosine triphosphate (ATP) in the mitochondria by participating in redox reactions within the electron transport chain. Two major factors lead to deficiency of Q10 in humans: reduced biosynthesis and increased use by the body. As many as 12 genes control biosynthesis; Q10 levels may also be controlled by other genetic defects not directly related to Q10 biosynthesis.

Heart disease
Q10 shares a biosynthetic pathway with cholesterol. An intermediary precursor of Q10 is inhibited by some beta blockers, antihypertensive medications and statins, but the role of statins in deficiencies is controversial.

Some chronic disease conditions (cancer, heart disease, etc.) are also thought to reduce the biosynthesis of and increase the demand for CoQ10 in the body, but there is no definite data to support these claims. A 2014 Cochrane Collaboration meta-analysis found "no convincing evidence to support or refute" the use of CoQ10 for the treatment of heart failure. Evidence with respect to preventing heart disease in those who are otherwise healthy is also poor.

Statin myopathy
Q10 has been routinely used to treat muscle breakdown associated as a side effect of use of statin medications. However, evidence from randomized controlled trials does not appear to support the idea that CoQ10 is an effective treatment for statin myopathy.

Cancer
No large well-designed clinical trials of CoQ10 in cancer treatment have been done. The National Cancer Institute identified issues with the few, small studies that have been done stating, "the way the studies were done and the amount of information reported made it unclear if benefits were caused by the CoQ10 or by something else". The American Cancer Society has concluded, "CoQ10 may reduce the effectiveness of chemo and radiation therapy, so most oncologists would recommend avoiding it during cancer treatment."

Neuromuscular and Neurologic Diseases
Available evidence suggests that "CoQ10 is likely ineffective in moderately improving" the chorea associated with Huntington's disease.

Migraine headache
Supplementation of CoQ10 has been found to have a beneficial effect on the condition of some sufferers of migraine. An explanation for this is the theory that migraines are a mitochondrial disorder, and that mitochondrial dysfunction can be improved with CoQ10. The Canadian Headache Society guideline for migraine prophylaxis recommends, based on low-quality evidence, that 300 mg of CoQ10 be offered as a choice for prophylaxis.

Dental disease
A review study has shown that there is no clinical benefit to the use of CoQ10 in the treatment of periodontal disease. Most of the studies suggesting otherwise were outdated, focused on in vitro tests, too few test subjects and/or erroneous statistical methodology and trial setup, or were sponsored by a manufacturer of the product.

Mitochondrial encephalomyopathies
This group of genetic disorders results from abnormalities in the function of the mitochondrial transport chain. Tissue Q10 deficiencies have been found in a very small subpopulation of individuals with mitochondrial encephalomyopathies. In these rare individuals, Q10 supplementation has resulted in clinical improvement.

Male infertility
Q10 can improve some measurements regarding sperm quality. However, there is no evidence that Q10 increases pregnancy rates or live births.

Level of Evidence
Quality - 2C
Strength - Weak
Wright - Weak
Based on the results of multiple articles representing multiple conditions. the scientific evidence to support coverage of Q10 for any purpose is controversial and/or limited for all diseases. Randomized controlled studies are recommended to demonstrate clinical utility. Consequently, testing for Q10 is not a Medicare benefit.

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