April 2015 Health Notes by Evelyn Ames

Coenzyme Q-10: Is Supplementation Necessary or Media Hype?

CoQ-10 is actually a vitamin-like substance found throughout the body. It is naturally made in the body, is used for cell growth, and helps protect cells from damage. Especially found in the body's heart, liver, kidney, and pancreas, it is also found in small amounts in meats and seafood, as well as being manufactured in laboratories. CoQ-10 levels are particularly high in organ meats such as heart, liver, and kidney, as well as beef, soy oil, sardines, mackerel, and peanuts. First identified in 1957, it is widely used in Japan, Europe and Russia. Most of the substance used in United States and Canada is supplied by Japanese companies. It is made by fermenting beets and sugar cane with special strains of yeast. Coenzyme Q-10 is required for the proper function of many organs and chemical reactions in the body; it helps to provide energy to cells. There may be some antioxidant activity. What lessens the level of CoQ-10 in our bodies? Aging is an important factor as well as smoking. CoQ-10 is sold as a dietary supplement, which means it is not subject to FDA regulation for safety and effectiveness. Other names associated with it are Q10, Vitamin Q10, Ubiquinone, and Ubidecarenone.

The *Natural Medicines Comprehensive Database* rates effectiveness based on scientific evidence according to the following scale: Effective, Likely Effective, Possibly Effective, Possibly Ineffective, Likely Ineffective, Ineffective, and Insufficient Evidence to Rate.

- Ratings of likely effective include CoenzymeQ-10 deficiency (which is rare) and mitochondrial disorders which limit energy production in the body's cells.
- Ratings of several possibly effective uses include (though controversial) that it might be helpful when taken in combination with other heart failure medications and treatments; decreasing risk of additional heart problems in people who have had a recent heart attack; preventing blood vessel complications caused by heart bypass surgery; taken with other medications treating high blood pressure (may help lower blood pressure even more); and may help prevent (but not treat) migraine headaches.
- Possibly ineffective: does not seem to decrease high cholesterol or triglycerides.
- Likely ineffective for improving athletic performance or periodontal disease when applied directly to the teeth and gums. Little evidence, if any, that it increases life span.
- Insufficient evidence to rate effectiveness for diabetes, breast cancer, male infertility, angina, fibromyalgia, and hypertrophic cardiomyopathy, hair loss due to use of warfarin, or Lyme disease.

What are the safety concerns in using CoQ-10? Taking more than 100 mg/day may cause mild insomnia, rashes, nausea, sensitivity to light, irritability, headache, heartburn, fatigue, upper abdominal pain, and dizziness. There are no known interactions with foods but studies suggest that use of red yeast (a supplement) might reduce coenzyme Q-10 levels in the body.

American Cancer Society reports "CoQ10 is sometimes promoted as a treatment for cancer (most commonly breast cancer), often in combination with other vitamins. Supporters also claim CoQ10 supplements may protect the heart from the damaging effects of certain chemotherapy drugs, such as doxorubicin (Adriamycin)." The National Cancer Institute rates the strength of evidence for CoQ10 in treating cancer as weak.

CoQ-10 is heavily promoted in printed and video media and on the Internet. Various web sites show CoQ10 supplements being promoted for heart disease, stroke, high blood pressure, muscular dystrophy, gum disease, chronic fatigue, Alzheimer's disease, AIDS, and other immune deficiencies. It is touted to improve athletic performance and help people lose weight. Some claim that CoQ10 can reduce pain and weight loss in people with cancer. It's also promoted to reduce the signs of aging when used in skin products. As noted above, most claims are weak or lack scientific evidence.

Want additional information, consider reviewing the following web sites:

- http://www.mayoclinic.org/drugs-supplements/coenzyme-q10/background/hrb-20059019
- http://www.webmd.com/heart-disease/heart-failure/tc/coenzyme-q10-topic-overview
- http://www.fda.gov/ICECI/EnforcementActions/WarningLetters/ucm392761.htm
- http://www.nlm.nih.gov/medlineplus/druginfo/natural/938.html
- http://www.cancer.gov/cancertopics/pdq/cam/coenzymeQ10/patient/page1/AllPages/Print
- http://www.cancer.org/treatment/treatmentsandsideeffects/complementaryandalternativemedicine/pharmacologicalandbiologicaltreatment/coenzyme-q10
- http://www.nlm.nih.gov/medlineplus/druginfo/natural/938.html