

DEALING WITH CARDIOVASCULAR DISEASE FROM A NUTRITIONAL PERSPECTIVE: PART FOUR

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In this final installment of this series we will look at a number of nutritional supplements that have been shown to be helpful in dealing with cardiovascular disease and maintaining cardio health.

LECITHIN: Lecithin is a fatty acid found in egg yolks, soybeans and other foods which in the body acts to make other fats more soluble. For example, body temperature is 37 degrees centigrade and cholesterol melts at 149 degrees centigrade. Therefore cholesterol is not easily liquefied in the body unless it is combined with lecithin. The fat/protein molecules that transport cholesterol as lipo protein contain lecithin with HDL having almost twice the lecithin as LDL. This is why HDL cholesterol is considered the “good cholesterol” as it helps to make LDL cholesterol more soluble and have the liver process it for excretion. Lecithin has been found to lower cholesterol levels. **Lecithin** can be taken as a supplement in either capsules or as granules.

PANTETHINE: Pantethine is the biologically active form of pantothenic acid (Vitamin B5) and exerts benefits well beyond pantothenic acid. Pantethine is utilized by key enzymes involved in the transport and breakdown of triglycerides and cholesterol. Pantethine is found in such foods as liver, salmon and brewers yeast. Pantethine has been shown to block up to 50% the action of the HMG-CoA enzyme responsible for the liver's production of cholesterol. This results in lower cholesterol production by the liver and causes the liver to compensate for this reduction by removing cholesterol from the blood. **Pantethine** can be taken as a supplement.

PLANT STEROLS: Plant sterols are the fats of plants and are structurally similar to cholesterol and are therefore able to “stand-in” for cholesterol. Cholesterol is absorbed from the intestines through receptor sites that are shaped exactly like cholesterol molecules. Because plant sterols look like cholesterol, they fit perfectly into these receptor sites. The cholesterol that is blocked by these plant sterols being absorbed instead of cholesterol, remains in our intestines and is eventually excreted through the stool. Our liver will then pull cholesterol from the blood to make up the difference in the same manner as with the use of pantethine.

GREEN FOOD CONCENTRATES: Supplementing with a high quality green food concentrate will provide much needed potassium and many antioxidants to protect the cardiovascular system and maintain normal blood pressure. Products such as BarleyLife, Chlorella, Wheat Grass and other such green food concentrates are some of the best forms of supplemental nutrition.

GARLIC: Fresh garlic provides a collection of sulfur compounds of which allicin has been shown to be the most beneficial. When you chew a garlic clove, alliin, a primary substance in garlic, is activated by an enzyme in garlic called alliinase which produces allicin. Allicin has been shown to reduce inflammation, keep blood from clotting, reduce cholesterol, and lower blood pressure. One such product is Garlinase 4000, from a company called Enzymatic Therapy. This is a one tablet per day supplement that provides close to 4000 milligrams of fresh garlic with 5000 micrograms of allicin from 11,000 micrograms of alliin. These enteric coated tablets are shown to protect allicin from being destroyed before reaching the small intestine. This product does not cause “garlic breath.”

ESSENTIAL FATTY ACIDS: The two essential fatty acids, linoleic and linolenic, are very much lacking in the typical American diet. These good fats lead to reduction in inflammation, play a role in the regulation of cholesterol, keep blood platelets from sticking together and facilitate normal blood flow. To insure you are getting these important fatty acids in your diet, we recommend you add flax seed meal and/or oil to your daily diet and regularly eat walnuts and pumpkin seeds. Green food concentrates are also a good source of essential fatty acids. Adding a high quality fish oil to your diet will insure a daily intake of the fatty acids EPA and DHA. While EPA and DHA are made in the body from linoleic and linolenic fatty acids, the body does not always efficiently facilitate this process. You can get EPA and DHA direct from fish oil.

Co ENZYME Q10 (CoQ10): CoQ10 appears to lower blood pressure in hypertension patients by normalizing the body's sodium/potassium ratio and via other mechanisms. In human trials, an average daily dosage of 225 mg of Coenzyme Q10 per day caused a reduction in average systolic blood pressure from 159 to 147 mm/Hg and a reduction in average diastolic blood pressure from 94 to 85 mm/Hg within three to four months of initiating supplementation. CoQ10 supports blood circulation and appears to facilitate the heart's handling of blood clots. As we age, our bodies produce less and less CoQ10. Supplementation with CoQ10 is highly recommended for anyone with high blood pressure or any type of cardiovascular problems.

NATTOKINASE: Nattokinase is an enzyme that will break down fibrin in the blood and other body tissue. It is derived from natto, a fermented soy bean food that is commonly eaten by the Japanese. Fibrin is a protein that forms in the blood to stop excess blood loss associated with an injury or trauma to the body. This protein also forms as a result of bacteria, viruses, fungi and toxins in the blood that trigger inflammation. Under such circumstances, since there is no demand for clotting to prevent blood loss, this fibrin will circulate through the blood and stick to the walls of blood vessels. This contributes to the formation of blood clots, slows blood flow and increases the viscosity of the blood and blood pressure. The result is loss of oxygen to body tissue which can contribute to heart attack, stroke, and senile dementia. While the body does produce enzymes that break down

fibrin, it does not always do so efficiently, especially as we grow older. Nattokinase has been the subject of 17 studies. These studies have shown Nattokinase to successfully dissolve clots, facilitate better blood flow and lower blood pressure.

SERRAPEPTASE: (Pronounced: Serra pep tase), is a type of proteolytic (protein digesting) enzyme. It is produced in the intestines of silk worms in order to break down the walls of cocoons. It can also be made through the fermentation process of certain bacteria. This enzyme has been shown to effectively dissolve fibrin and plaque in the arteries and thus improve blood flow leading to reduction in blood pressure. Serrapeptase is available as a supplement.

NIACIN: Niacin (vitamin B-3) can be taken as a supplement to lower the liver's production of cholesterol, reduce LDL, raise HDL, lower triglycerides, and increase circulation. Since niacin dilates blood vessels, you may experience a "flush" in the head and upper body areas which usually goes away in a short period of time. A buffered form of niacin called niacinamide will not produce this flush but neither will it dilate the blood vessels or have the action on the liver that straight niacin does. When taking a single B-vitamin such as niacin, it is best to take a B-complex so that imbalances don't develop between the various B-vitamins the body uses.

HAWTHORN BERRY: This herb has been shown to support the strength of the heart muscle and help maintain a proper heart rhythm. Hawthorne berry also appears to help lower high blood pressure and reduce mild chest pain (angina) associated with arterial blockage. Hawthorn berry can be taken as an individual supplement or it is found in some nutritional supplements formulated specifically for the heart.

L-ARGININE: The amino acid L-Arginine improves blood circulation by stimulating the production of nitric oxide, an endogenous neurotransmitter that helps prevent vasoconstriction and which initiates vasodilation by relaxing the Smooth Muscle cells of the Blood Vessels. Nitric oxide is what is produced by the breakdown of nitroglycerin which is used by patients experiencing angina. The amino acid L-Citrulline can also be used for this purpose as it acts as a precursor to L-Arginine and has been seen to regulate L-Arginine levels in the body.

TAURINE: Taurine is the most abundant and most important amino acid in the heart. It is present in the heart in greater quantities than all other amino acids combined. Its primary function is to normalize potassium flow into and out of cardiac muscle cells, normalize the electrical excitability of the heart's cell membranes and enhance the contractile strength of the Cardiac Muscle. Persons who have experienced a heart attack often exhibit very low taurine levels subsequent to their heart attack indicating that supplemental Taurine may be highly advisable for persons who have experienced a heart attack or are experiencing coronary issues. The liver makes taurine from the amino acids cysteine and

methionine. It is also found in most animal products.

L-CARNITINE: Carnitine is a dipeptide composed of the amino acids lysine and methionine and is chemically similar to choline. It is manufactured in the liver and kidneys and is found in animal products. This amino acid facilitates the transportation of fatty acids across cell membranes into the mitochondria of cells. It is therefore important to the cells utilization of fats as a fuel source for producing energy. Since the heart is the most energy intense organ in the body, carnitine is of vital importance to coronary health. People who have cardiovascular disease often exhibit carnitine deficiency. Some research shows that angina may occur as a result of carnitine deficiency and the taking of 900 - 2,000 mg per day of supplemental carnitine may reduce the pain and other symptoms of angina. Carnitine is stored primarily in the heart where it facilitates cardiac contractions.

This concludes this series on dealing with cardiovascular disease from a nutritional perspective. I trust this four part series has been helpful. Next month we will begin a series dealing with how to deal with breast cancer from a nutritional perspective. Visit www.milkandhoneyhealthfoods.com for comprehensive articles on many aspects of health and nutrition.