

The Osteoporosis/Heart Disease Connection

The numerous health-conscious people in West Marin probably know that exercise is good for bone building, but they may not know about all the other factors that contribute to strong bones as well as a healthy cardiovascular system. Luckily West Marin provides us with the perfect place to get plenty of sunshine and outdoor exercise, both of which are important for bones and heart.

Bone building is a complex process dependent on several vitamins and minerals. Calcium is the obvious one, and is important, but requires adequate amounts of vitamins C, D, E, K and folic acid, and minerals magnesium, manganese, potassium, boron, zinc, copper and silica for optimum absorption. Also the *form* of calcium makes a difference. Calcium citrate and the chelated calciums such as Di-calcium malate, Bis-glycinate calcium chelate and calcium ascorbate are the more easily absorbed forms.

Recent research into the way in which vitamin K works in the body reveals the connection between heart disease and osteoporosis, or thinning bones. It has been known for quite some time that those with atherosclerosis are much more likely to also have osteoporosis. Like vitamin E, vitamin K has several “fractions” or forms and all play different roles in the body. These fractions are divided between K1 (found in dark leafy greens), and K2 (found in organ meats, egg yolks and dairy products). One of the main roles for K1 is in blood clot regulation. Those on blood thinners should consult their doctor before supplementing with Vitamin K. It has recently been revealed that K2 is important in regulating *where* the calcium is deposited in the body—either in the bones and teeth where it belongs or in the linings of the arteries and the heart valves. Much of the research has been done in Japan in the region where the fermented soybean dish natto is popular. It has been shown to have very high levels of K2, especially the MK 7 fraction. The people of this region have a much lower incidence of

osteoporosis. Other research shows that high levels of K2 may suppress cancer, particularly liver, myeloma and lymphoma.

All the K2 fractions can be synthesized in the human gut by the healthy microflora. This requires a healthy balance of microflora in the gut, which is compromised in many people, especially those who have had high-dose or long-term antibiotic therapy. In the body it is all about balance. So a healthy gut is a must for a healthy body.

What does a heart-healthy and bone-healthy diet look like? Many foods besides dairy are high in calcium, such as broccoli, sesame seeds and tahini, clams, dandelion and other dark leafy greens, nuts, kale, kelp, molasses, oats, salmon and sardines. High sulfur foods are also important for calcium absorption, so include onions, garlic and eggs on a regular basis. One substance that inhibits calcium absorption is phosphorous found in large quantities in soft drinks.

Often people may have *dense* bones, but they are not *resilient* bones. Resilient bones are not as prone to fractures. For this one needs adequate amounts of magnesium, also found in dark leafy greens and nuts and seeds. Vitamin D3 is a key player in bone health as well as immune function, balance and heart function. A majority of people are found deficient in this vital nutrient. Your doctor can test your levels. A 10-15 minute sun exposure *without* sunscreen several times per week in the summer can help, but during winter months supplementation may be necessary. K2 is available as MK-7 or Natto supplements and the complete K2 is also found in Swiss Emmental or Norwegian Jarlsberg cheeses.

Exercise, especially weight-bearing exercise, is important in both bone health and heart health. The process of the foot striking the pavement creates a Piezo Effect that generates a small electrical charge in the bones that can spark bone growth. Swimming or riding a stationary bike do not have the same effect. Lifting

small amounts of weights can stimulate muscle growth and bone strength, as well as strengthen the heart. So keep on walking our West Marin trails and build some bone. Do not begin any exercise program without the approval of your physician.

All this goes to show that what is good for the bones is also good for the heart.

Nutrition Consultant Bonnie Fisk-Hayden, MS practices holistic nutrition in Point Reyes Station and Larkspur. None of the above information is intended to diagnose or treat any illness.