

Preventing Heart Disease

‘Homocysteine’ could cause up to 90 percent of all heart disease.

Q.What is “homocysteine,” and what effect does it have on my heart? □ –J.L., Decatur, Ga.

A.Homocysteine is an amino acid in the blood, and high levels of it are related to a high risk of atherosclerosis, a type of hardening of the arterial walls. Experts estimate that homocysteine may be responsible for as much as 90 percent of all heart disease. Because 1 out of 2 Americans eventually will die of cardiovascular disease, it is critically important for each of us to know our homocysteine level, not just our cholesterol levels.

Another amino acid, methionine, can convert to homocysteine if a person does not have adequate amounts of “methyl” nutrients in their diet. Methyl nutrients include folic acid, vitamins B6 and B12, and trimethylglycine or “betaine.” A process called “methylation” occurs when the body converts homocysteine back to methionine.

In another process called “transulfuration” the body uses vitamin B6 to break down excessive amounts of homocysteine to different metabolites in order to excrete it from the body. According to the American Heart Association, researchers have studied the use of varying amounts of folic acid to lower the homocysteine level, but it is still not clear what an optimal dose would be.

Very few Americans have the genetic predisposition for high levels of

homocysteine. Many, however, do have elevated levels of it due to a deficiency of nutrients B6, B12, folic acid and betaine.

Many studies have linked high levels of homocysteine with heart disease. In fact, a high homocysteine level could be the most neglected biochemical risk factor for heart disease and may join the ranks of high blood pressure, high cholesterol and smoking as a major risk factor for heart disease.

The results of a large European trial study published in June 1999 in the Journal of the American Medical Association revealed that among men and women under the age of 60, the risk of coronary and other vascular diseases was more than twice as high for those with homocysteine levels in the top 20 percent of the normal range when compared with those in the bottom 80 percent of the range.

Another study, published in the New England Journal of Medicine on July 24, 1997, tested 587 patients who had coronary disease. It found that the risk of death after four to five years corresponded directly with the total homocysteine levels in the patients' blood. The risk of death rose from almost 4 percent in those with lower levels of homocysteine to almost 25 percent in those with higher levels.

can I lower my level of homocysteine, and what level is normal? □ —M.G., Tulsa, Okla.

who eat excessive amounts of meat or who take in excessive amounts of protein supplements are more prone to developing elevated levels of homocysteine, particularly if they do not

take the necessary supplements to prevent this.

In order to prevent an elevated level of homocysteine, I recommend that you take 800 mcg (micrograms) of vitamin B12 two to three times a day; 20 mg (milligrams) of vitamin B6 two to three times a day; 800 mcg of folic acid two to three times a day; and 600 to 1,200 mg of trimethylglycine (betaine) two to three times a day.

I believe a person should get his or her homocysteine levels as low as possible. The ranges are as follows: normal: 5-15 micromole per liter; optimal: less than 12 micromole per liter. (These are technical terms, but your doctor will help you understand if your homocysteine level falls within the accepted range.)

Studies have shown that people with even optimal levels of homocysteine run a greater risk of arteriosclerosis when compared with people whose levels are below 7.2 micromole per liter—which is in the lowest 20 percent of the optimal range.

If your level isn't below 6.5, I recommend you take a comprehensive multivitamin that contains adequate amounts of vitamins B6, B12 and folic acid. Or take the supplementation mentioned above.

You'll feel better just knowing you've taken a step to lower your risk of heart disease.

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