

## **CHOLESTEROL & HOMOCYSTEINE**

**By Dr. David W. Tanton, Ph.D**

Cholesterol is not actually the proverbial enemy we are led to believe, by the very industry that benefits from the tremendous profits they provide, or the statements made by the doctors on their payroll. Cholesterol actually has many uses in both the body and brain. We get only 20% of our cholesterol from the diet, and the liver produces the other 80% as the need arises. Cholesterol is necessary for producing many important hormones, as well as the bile salts in the liver. In my opinion, the low-density lipoprotein (LDL) cholesterol, considered the bad guy, actually got a bum rap. A good analogy is a person with blood on their hands at the scene of a crime attempting to save someone's life but blamed for the crime if the person dies. Whenever there is a damaged or weakened artery wall, the potential for internal hemorrhage exists, as we could easily lose blood through a lesion in the artery wall. The LDL cholesterol then comes to the rescue and temporarily seals the artery wall reducing the potential for leakage of the vascular wall. When it is found at the scene of the crime (the damaged arterial wall), it is automatically blamed for reducing the flow of blood, which is actually much less serious than the internal hemorrhaging that might have occurred. If and when the damage is finally dealt with, the high-density lipoprotein (HDL) cholesterol (known as the good guy) will then proceed to remove the LDL cholesterol. They are basically a team, and both have important functions.

Another function of LDL cholesterol is that of stabilizing cell membranes in the brain caused by excessive levels of alcohol. The cell membrane is made of fats, and alcohol is a solvent that destabilizes the membrane. For that very reason, when drinking excessively a person has difficulty with coherent speech and mobility. Once the membranes in the brain cells are destabilized, the cells can't effectively communicate with each other, as the cell receptors are basically unstable and out of alignment. Then come the emergency crew, the LDL cholesterol, to hold up and stabilize the cell walls until the problem can be permanently resolved.

Another important function of cholesterol is that of sealing the cell walls to help retain water when we become dehydrated. Once the body is properly hydrated (we start drinking more water) the cholesterol is then removed. So, as you can see, cholesterol is a valuable resource and has many important functions throughout both the body and brain.

So, you can stop stressing about your cholesterol! If a person's blood were tested for cholesterol when the liver was attempting to meet a potential emergency, it would obviously show up on a blood test as elevated, although it could easily fluctuate not only daily, but hourly. Our cholesterol level is thus not something we should normally concern ourselves with. In fact, just stressing about your cholesterol just before having it tested could easily raise your cholesterol levels.

Let's take a minute and see if we can possibly find an explanation for why cholesterol seems to be found in the arteries, but not the veins. The same cholesterol that flows through the arteries also flows through the veins. So, the 64,000-dollar question is: Why does it accumulate in the artery wall and not the veins? Although I have never heard a valid explanation discussed by any doctor to date, I believe there might be a logical explanation.

As you learned, cholesterol is basically a sealant that seals potential leaks in weakened or damaged arteries. Although there is considerable pressure on the arteries when the heart is attempting to pump the blood throughout the body and brain, this is not the case with the veins. A good analogy would be a garden hose. Suppose we attach one end of the garden hose to a water supply under pressure (a hose bib) and turn the water on, and we just happen to have a small hole in the hose. If there were no restriction at the end of the hose (basically little or no pressure), the hole would normally go undetected. If a nozzle was placed at the end of the hose, the pressure in the hose would increase and the leak would become obvious. We can easily see why, although a sealant such as cholesterol would be a valuable resource in the arteries, it would be normally of little use in the veins, where it is not usually found.

We should be addressing the basic underlying problem: The weakened artery walls. Just some basic supplements (such as vitamin A, a good B-vitamin complex, vitamin C with bioflavonoids, and the minerals copper and zinc) can build healthy epithelial (smooth muscle) cells and strengthen the artery walls. This would also help prevent an aneurysm in the brain, as well as prevent the real cardiovascular threat (homocysteine) in the process. Prevention is so much easier than attempting to deal with a condition that has continued to progress due to a nutritional deficiency.

### **The True Risk Factor – homocysteine**

So as you have now learned, elevated cholesterol never has been a risk factor for heart disease, and never will be. Nearly 30 years ago, Dr. Kilmer S. McCully, M.D. discovered it was instead homocysteine. A major cover-up occurred, as he was pressured not to publish his findings due to the tremendous profit potential of the statin (cholesterol lowering) drugs. He persisted and published his findings, which cost him his job and his funding. Unfortunately, the information was not acted upon, but was instead suppressed and the statin drugs are still being aggressively marketed today.

This is a prime example of what Dr. Paul Rosch, M.D., was referring to at a conference held in 2003 in Arlington, Virginia, when he indicated that half of all heart attacks occur in people with normal cholesterol levels, and stressed that: "Anyone who questions cholesterol usually finds his funding cut off." Fortunately, I am funding my own research.

Although elevated homocysteine can easily be controlled with adequate levels of three B vitamins—folic acid, B6 and B12—anything that can only be resolved with vitamins, but not drugs, is information that is purposely suppressed from the public. Unfortunately,

many prescription medications and addictive substances deplete the very vitamins necessary for controlling your homocysteine levels. For instance:

In the *Drug-Induced Nutrients Depletion Handbook, 2nd Edition (2001)*, there were 95 different drugs listed that deplete folic acid, one hundred and eleven that depleted vitamin B6 listed, and interestingly the same number that depleted vitamin B12. It is quite apparent that anyone taking prescription drugs could quite easily have a problem with elevated homocysteine. All three vitamins necessary for reducing homocysteine are cofactors that must be present for proper methylation to take place. You can easily see why using prescription drugs could dramatically increase the potential for the true cardiovascular risk factor, elevated homocysteine.

The amino acid, methionine, which breaks down into homocysteine, is found in the proteins you eat (especially red meat). Ideally, homocysteine is changed right back to methionine by your body, during a process called methylation. But when that fails to happen (due to vitamin depletion from prescription drugs, for example), your homocysteine levels soon become elevated, and immediate damage to the blood vessels can occur. Plaque will then begin to form, and the carotid and coronary arteries then thicken, restricting blood flow. The longer this continues, the higher the cardiovascular risk will be.

Excerpted from Chapter 6 of *A Drug Free Approach to Healthcare* by Dr. David W. Tanton, Ph.D