The Blaylock Wellness Report
Living a Long, Healthy Life
Edited by Russell L. Blaylock, M.D.
April 2011 Vol. 8, No. 4

Key Points

- A newly discovered hormone plays a key role in shifting iron to the cells that need it most
- Research suggests that excess iron is linked to neurodegenerative and cardiovascular diseases
- Past clinical studies were wrong on the damaging effects of excess iron in the body
- Take vitamin C on an empty stomach to protect against iron toxicity

PLUS

- Hawthorn extract can help control blood pressure and chronic inflammation

ASK DR. BLAYLOCK

- Iron infusions during active infections can make patients worse
- There are natural alternatives to statins

Iron and Your Body: Too Much Can Be Deadly

Everyone is familiar with the warnings about "too much of a good thing." Nowhere is this more apropos than when it comes to your body and good health. Think about it for a moment: Wine in small quantities can be very beneficial, but we all know what happens with excessive drinking. Vitamins are clearly a good thing, but some can be toxic in massive quantities.

It is important to monitor what goes into your body and be educated on when enough is enough, and when too much can cause problems.

Iron is one such substance to keep a close eye on. Iron is a mineral necessary for overall good health. It is one of the most important metals for the body. It plays a major role in blood formation, hemoglobin function (carrying oxygen), generation of energy in cells, and killing of invading microorganisms. It is also a cofactor in many enzymes — which means that iron bonds to certain proteins to aid in the biological function of enzymes.

When iron levels are low, a person will feel very weak and tire easily. Low iron levels can also cause heart failure, increase cancer risk, and increase formation of free radicals, leading to rapid aging and a higher risk of many diseases.

Yet, like so many things in nature, iron is a double-edged sword. When iron levels are too high, they can precipitate rapid aging of tissues and bring on neurodegenerative disorders such as Alzheimer's disease, Parkinson's disease, and ALS. High iron levels can also cause heart failure, stimulate atherosclerosis (hardening of the arteries, which can lead to a heart attack or stroke), trigger diabetes, and increase cancer risk.

In this issue of The Blaylock Wellness Report, I will discuss how our bodies regulate iron levels, as well as the effects of iron in the diet, ways to measure iron status, and the effects of iron in a number of serious diseases. I will also explain how you can protect yourself from damage caused by excess iron.

How the Body Uses Iron

Because iron is essential to life, our bodies have a system for storing it in special tissues. While iron losses are mostly replaced by diet,

→

'Normal' Iron Levels Are Too High

To determine "normal" levels of any blood component, blood tests are taken from a set number of men and women who are assumed to be healthy. Statistical averages are then calculated to establish the range of a blood test that would be considered normal — one set for men and another for women.

But what if when the values for iron were determined, most people in our society were consuming far too much? Then the "normal" value would be too high, especially in the upper range. This error could have profound implications for our long-term health, as many of the effects of excessive iron would not appear for decades.

By setting higher levels as "normal" we would be increasing all of the diseases associated with iron overload, such as cancer, heart failure, atherosclerosis, heart attacks, strokes, diabetes, eye disorders, and neurodegenerative disorders.

The typical Western diet contains a lot of red meat and few vegetables. Red meat is the No. 1 source of absorbable iron, and vegetables are our main protection against the harmful effects of iron by inhibiting excess absorption. This is why eating vegetables with your red meat dramatically lowers your risk of colon cancer, which is known to be strongly associated with red meat consumption.

This also means that Americans would have higher "normal" values for iron than would Asians, who eat far less red meat. These normal values also change as we age. Keep that in mind when your doctor tells you that your iron level is "normal."

this system allows for shifting the nutrient among various tissues to ensure that the most essential body functions can continue uninterrupted. **For example, red blood cells are first in line for iron, and will actually steal iron from the body's iron stores or even other tissues to supply their needs.**[1]

The body's ability to shift iron not only ensures that essential functions remain operational, it is also responsible for a number of erroneous conclusions by scientists and doctors.

This happened because human beings tend to think in rather simplistic terms. For instance, it stands to reason that eating of lot of iron-containing foods should lead to iron overload.

Likewise, we think that if our blood iron level is low, that should be protective against iron toxicity. But it's not always that simple.

Because iron is so toxic, its absorption from our gut is tightly regulated by our bodies. We only absorb enough to balance our normal losses — somewhere around 1 to 2 mg per day out of 15 to 20 mg found in the average person's daily diet.

Most of the iron is absorbed in a small segment of our small intestine called the duodenum. How much iron is absorbed is determined by a number of factors:

- How much iron is already stored in the body
- How fast red blood cells are needed
- The body's oxygen level

Iron can only be absorbed in the body after it has been "reduced," which means that an electron has been added to the iron atom. The cells lining the intestine reduce the Fe^{3+} form of iron to Fe^{2+}.

It is then absorbed into intestinal cells called enterocytes. Some iron is permanently stored inside of these cells and the rest goes into the bloodstream, where it is immediately attached to a carrier protein called transferrin.

Iron has to be bound to a transferrin carrier because free iron is extremely toxic — that is, it forms powerful free radicals (atoms or molecules with unpaired electrons) that can damage everything they come in contact with. About 30 to 40 percent of a transferrin molecule is bound to an iron atom, so there is still a lot of room for more iron, if needed.

When the transferrin with its load of iron gets to where it is going, it attaches to a receptor on the membrane of the cell and transfers the iron inside the cell. The iron atom is then attached to another protective protein called ferritin, which shields the inside of the cell from the dangerous free radicals produced by free iron.

These two vital proteins can be measured by a simple blood test that indicates the health of your iron-carrying system.

Two Hormones Are Key To Regulating Iron

Iron is carefully regulated and shifted throughout the body as need arises in different tissues. This shifting process plays a major role in disease. It also explains how researchers and doctors got tricked in a number of their studies when looking at the influence of iron on diseases.

Recently, researchers discovered a hormone

called hepcidin, which is made in liver cells (hepatocytes) and plays a key role in the absorption and movement of iron in the body.

This hormone is affected by many different conditions:

- Iron levels
- Inflammation
- Hypoxia (low oxygen levels)
- Anemia (low red blood cell count)

In the case of chronic inflammation, hepcidin levels are very high, which decreases iron absorption and prevents iron from being released from its storage depots within various cells. This causes a drop in circulating iron levels and can result in a deficiency despite abundant stores of iron in the body.

We call this functional iron deficiency or anemia of chronic disease. This condition is commonly seen in chronic inflammatory diseases such as lupus and rheumatoid arthritis.

Another hormone-like substance called ferroportin regulates the removal of iron from cells — that is, it does the opposite of hepcidin. This makes more iron available for building red blood cells. In essence, these substances are escorts — one escorting iron into cells (hepcidin) and the other escorting the iron out (ferroportin).

This becomes very important when we consider what is happening with iron in diseases.

Iron and Brain Diseases

Research suggests that excess iron in the brain is playing a role in a number of neurodegenerative diseases, such as Alzheimer's, Parkinson's, and multiple sclerosis. Neuroscientists have come to agree that these diseases are strongly linked to chronic, low-level brain inflammation.

If the $64,000 question is, What is causing this inflammation? Iron is a very good candidate.

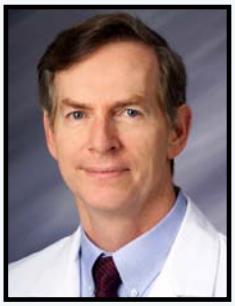
As we age, our brain progressively accumulates iron in areas prone to be damaged in Alzheimer's disease and Parkinson's disease.[2] It is known that people who have genes for hemochromatosis — a disease of massive iron accumulation — are more likely to get Alzheimer's disease than the rest of the general population.[3]

Likewise, people with a rare genetic defect related to transferrin overactivity also have a higher risk of Alzheimer's.[4] People who have both the hemochromatosis gene mutation and the transferrin defect have a five times higher risk of developing Alzheimer's.[5]

One of the early findings in Parkinson's studies was that there is an accumulation of iron in the most affected part of the brain, the substantia nigra. And as the disease progresses, the iron accumulation worsens.

One of the common links to both Alzheimer's and Parkinson's disease is excitotoxicity, a process by which excitatory neurotransmitters such as glutamate and aspartate damage nerve cells. These excitotoxins have also been shown to cause iron accumulation

About Dr. Blaylock



Dr. Russell Blaylock is a nationally recognized, board-certified neurosurgeon, health practitioner, author, and lecturer. He attended the Louisiana State University School of Medicine in New Orleans and completed his internship and neurosurgical residency at the Medical University of South Carolina in Charleston, S.C. For 26 years, he has practiced neurosurgery in addition to having a nutritional practice.

He recently retired from his neurosurgical duties to devote his full attention to nutritional studies and research. Dr. Blaylock has authored four books on nutrition and wellness, including "Excitotoxins: The Taste That Kills," "Health and Nutrition Secrets That Can Save Your Life," "Natural Strategies for The Cancer Patient," and his most recent work, "Cellular and Molecular Biology of Autism Spectrum Disorders," edited by Anna Strunecka. An in-demand guest for radio and television programs, he lectures extensively to both lay and professional medical audiences on a variety of nutrition-related subjects.

Dr. Blaylock has been appointed to serve on the Scientific Advisory Board of the Life Extension Foundation. He is the 2004 recipient of the Integrity in Science Award granted by the Weston A. Price Foundation. He serves on the editorial staffs of the Journal of the American Nutraceutical Association, Surgical Neurology International, and the Journal of American Physicians and Surgeons, official publication of the Association of American Physicians and Surgeons. He is also a lecturer for the Foundation on Anti-Aging and Regenerative Medicine.

Dr. Blaylock previously served as clinical assistant professor of neurosurgery at the University of Mississippi Medical Center in Jackson, Miss., and is a visiting professor of biology at Belhaven University, also in Jackson.

in critical brain cells. **Removing excess brain iron protects brain cells against excitotoxicity, once again showing a strong link between iron and neurodegenerative brain damage.**

The brain's principal immune cells are called microglia. Studies have shown that as we age our microglia, especially those located in areas affected by Alzheimer's and Parkinson's, begin to accumulate iron. When these brain immune cells accumulate iron they become activated in a way that can damage other brain cells and their connections, called synapses.

Studies of Parkinson's patients have shown that the number of ferritin-loaded (iron-loaded) microglia is dramatically increased.

It is unbonded iron that is most dangerous to body tissues. In Alzheimer's disease, free iron levels increase faster than ferritin levels, meaning that there isn't enough ferritin to bond with iron in cells.

In the case of multiple sclerosis, areas of the brain affected by the disease tend to accumulate iron. As an autoimmune disorder, MS affects mostly brain nerve fibers called axons.

Within the axons, it is the oligodendrocytes, the cells that make nerve fiber insulation (myelin), that accumulate the most iron.

This free, unbonded iron aggravates the damage seen in MS.

While there is no strong evidence that iron is the cause of these diseases, excess iron seems to make them worse — causing them to advance faster and more aggressively.

This is because free iron dramatically increases free radical formation and lipid peroxidation — which occurs when fats oxidize, triggering inflammation.

You might recall from previous issues of The Blaylock Wellness Report that pesticide exposure appears to be the main cause of Parkinson's disease. Pesticides activate microglia in that important part of the brain, the substantia nigra, and trigger excitotoxicity (also called immunoexcitotoxicity, in this case, as microglia are the brain's principal immune cells).

This dramatically increases free radical formation and lipid peroxidation as well.

Free iron magnifies this harmful process, putting your brain at even greater risk.

Iron and Heart Disease

Compelling research suggests that excessive iron can accelerate aging,[6] and that lowering iron levels significantly increases lifespan. Unfortunately, this has been shown in studies mostly dealing with fruit flies and houseflies, but some research suggests that the results may be true in mammals as well.

One ongoing, multi-participant, dietary study called NHANES (National Health and Nutritional Examination Survey), found that people who had transferrin iron saturation of greater than 55 percent had an increased mortality rate compared to those with lower iron levels.

This also was true of those with higher red meat consumption, a major source of absorbable iron.[7, 8]

The first strong suggestion that iron was linked to the risk of cardiovascular disease came from the studies of Dr. J.L. Sullivan, who noticed that premenopausal women had a much lower heart attack risk than men in the same age group, and that with the onset of menopause, women's risk rose rapidly.[9]

At first, it was assumed that estrogen was playing a protective role.

But more careful studies demonstrated that premenopausal women had much lower iron levels than postmenopausal women, primarily because due to menstruation.

Experiments using animals seemed to confirm Sullivan's hypothesis. Animals fed or infused with excessive iron developed dramatic increases in atherosclerosis.[10, 11]

Yet studies that examined large numbers of people to see if there was a relation between iron intake and cardiovascular disease reported conflicting results, with some showing a strong link and others no link at all. In fact, an often-quoted meta-analysis of

one study found no strong association between iron and heart disease.[12]

Seemingly even more powerful evidence came from the fact that people with hemochromatosis — in which tissue iron levels are sky-high — showed no evidence of an increase in three important conditions:

- Atherosclerosis
- Heart attack
- Strokes[13]

This evidence seemed to put a damper on the idea of a link between iron and cardiovascular disease. That is, until it was pointed out that all of these "exonerating" studies looked only at total iron levels, most of which was bound iron (bound to transferrin and ferritin) that did not produce free radicals or lipid peroxidation.

The studies that looked only at increased exposure to free iron found a strong link between iron and cardiovascular disease.[14]

One study reported that drinking alcohol released iron from transferrin; this raised free iron levels. Researchers used data from the Iowa Women's Study Cohort, which included 41,836 post-menopausal women ages 55 to 69, and followed them for 15 years. They found that women who drank greater than 10 grams of alcohol a day were at a high risk of heart disease.

The strongest correlation was with heme iron — the type that comes from eating red meat. Interestingly, researchers found zinc to be protective against heart disease. Other studies have shown that zinc protected against atherosclerosis in animal models of human disease.[15]

Dietary iron intake is also linked to Type 2 diabetes, which increases one's risk of cardiovascular disease. In animal studies and some human studies, reducing the body's iron level resulted in reduced incidence of heart attack and stroke.

Hardening of the Arteries Starts With Chronic Inflammation

So why don't we see a high incidence of heart attacks, strokes, and peripheral arterial disease with hemochromatosis, the iron overload disorder? To understand this, **we must first understand how atherosclerosis develops. The most important point is this: It does not come from high cholesterol levels alone. A tremendous amount of evidence suggests that arteries develop this plaque because of chronic inflammation within the walls of the blood vessels and within the blood.**

As I have discussed in previous newsletters, only oxidized LDL (low-density lipoprotein) cholesterol causes atherosclerosis. And studies have shown that iron increases the oxidation of LDL cholesterol.

When inflammation occurs in the body, for whatever reason, immune cells release inflammatory chemicals called cytokines and chemokines.

If this state of inflammation persists too long, LDL cholesterol begins to oxidize (take on an extra electron).

LDL cholesterol is singled out because it is a smaller molecule and more likely to oxidize than larger molecules such as high-density lipoprotein (HDL) cholesterol. However, under certain conditions HDL cholesterol can oxidize and contribute to atherosclerosis.

Oxidized LDL cholesterol has several harmful effects on blood vessels:

- Increases adhesion molecules
- Attracts white blood cells to the blood vessel wall
- Damages endothelial cells that line the inside of

Research Connects High Iron Levels to Early Atherosclerosis

A number of studies have shown that there is close correlation between the formation of an atherosclerotic plaque and activation of iron-related genes. Dr. T.A. Lee and his team found that feeding animals a diet very low in iron dramatically reduced the size of the atherosclerotic lesions in their blood vessels.

In other studies, using an iron chelator (process of binding free iron) for nine weeks reduced the iron levels within the plaque and reduced overall atherosclerosis, strongly suggesting iron was playing a major role in atherosclerosis.

Of great interest, A.J. Matthews and co-researchers, using a standard cholesterol-fed rabbit model of human atherosclerosis, found a large and highly significant decrease in aortic cholesterol levels after iron chelation treatment, indicating that iron was playing a role in cholesterol deposition within the wall of blood vessels.

Apparently, this deposition of iron occurs very early in atherosclerosis, with one study, reported in Free Radical Biology & Medicine, showing a sevenfold increase in iron concentrations in newly formed atherosclerotic lesions.

BLAYLOCK TIP

The Importance of Vitamin E

There are eight forms of vitamin E in nature — four tocopherols (alpha, beta, delta, and gamma) and four tocotrienols (alpha, beta, delta, and gamma). Most vitamin E sold in stores is alpha-tocopherol. While we know the most about alpha-tocopherol, the gamma form is rapidly coming to the fore as the vitamin E that combats inflammation.

Recent studies have shown that the tocotrienols may be much more protective of the brain than the traditional tocopherols. They may also play a major role in preventing cancer.

While vitamin E is fat soluble, toxicity is rare. However, some studies report immune suppression in doses over 1,000 international units (IU), and some people may experience muscle weakness in high doses. There is also evidence that the tocopherols may damage the tocotrienols if taken together, so take them at least three hours apart.

The form of vitamin E also matters. The most commonly sold form of vitamin E is dl-alpha-tocopherol, a synthetic. Only the natural "d" form (d-alpha-tocopherol) is beneficial.

One problem I have with most vitamin E supplements is that the vitamin E is mixed with vegetable oil, usually an omega-6 oil. These oils promote inflammation, increase cancer growth and spread, and trigger lipid peroxidation.

So be sure to check the label before taking your vitamin E.

the blood vessel

- Contributes to "foam cell" formation (cells loaded with LDL)
- Stimulates proliferation of smooth muscle in the blood vessel

The four factors above are all associated with atherosclerosis.

Normal LDL cholesterol cannot enter the vessel wall and is therefore harmless, even if the levels are very high. The only real reason high levels of LDL cholesterol are dangerous is that the more you have, the more likely it is that some of it will oxidize.

In previous newsletters, I explained that many of the fats we eat, especially omega-6 fats (vegetable oils) are actually oxidized on our plates, even before we eat them.[16] The oxidized LDL cholesterol causes special white blood cells, called macrophages, to stick to the walls of the blood vessel and eventually to burrow their way inside.

The oxidized LDL cholesterol can also enter the outer layer of cells on blood vessels, called the endothelial layer, and impair these vital cells. Endothelial cells are the brains of the blood vessel; the earliest change in atherosclerosis is abnormalities in endothelial cell function, called endothelial dysfunction.

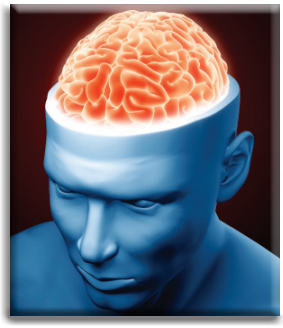
The reason the macrophage (a word that means "large eater") enters the wall of the blood vessel is to gobble up the oxidized LDL cholesterol before it can do more harm. **But if we keep eating oxidized fats, there is an endless supply of oxidized cholesterol, and soon the macrophage becomes engorged with oxidized fats — not just LDL cholesterol, but also a number of other fats. These engorged macrophages are called "foam cells."**

As these foam cells collect within the wall of the blood vessels, they begin to bulge out, and look like a row of boils. That is exactly how Rudolf Virchow, the father of modern pathology, described atherosclerotic plaques in the 1800s.

Macrophages contain a good deal of iron in amounts controlled by the hormones hepcidin and ferroportin. Hepcidin escorts iron into the macrophage and ferroportin removes it from the cell into the blood.

During states of inflammation hepcidin levels rise very high and ferroportin levels fall. This drives

Exposing The National Brain Decay Epidemic



The Statistics Are Alarming, Which Is Why Early Prevention Is Critical

We all dread the thought of losing our cognitive abilities as we get older. With some 4.5 million Americans suffering from Alzheimer's, and many millions more experiencing memory impairment, age-related cognitive decline can sometimes seem unavoidable. But brain decay is actually less inevitable than you might fear, with evidence mounting that nutritional factors play a major roll in its prevention.

The Statistics Are Grim

Experts are alarmed by the sharp rise in the rates of people experiencing cognitive decline. The fact is, if you plan on living into your 80s (which most of us do), then your chances of suffering from brain decay are as high as 50%.

Know The Early Warning Signs

Some people think that being "forgetful" is just a part of getting older. However, it could in fact be an early warning sign of cognitive decline. And since early detection tests have yet to be perfected, it could be your *only* warning sign. Other early signs can include confusion, poor memory and mental fatigue.

Common Signs of Early Brain Decay

- ☑ Slow Recall
- ☑ Fuzzy Memory
- ☑ Confusion With Time
- ☑ Losing Things
- ☑ Low Mental Energy
- ☑ Withdrawal From Activities

You Can Reverse This Process…Starting Now

The latest research is very promising. Breakthrough studies from around the world show that there are safe, natural and effective methods to preventing, and even reversing, cognitive decline and keeping your mind and memory sharp.

Specific Nutrients Are Critical For Brain Function

Dietary supplements can provide extremely powerful results if taken in the correct combination and dosage. Most important to optimizing brain function is CoQ10, DHA, Curcumin, Alpha Lipoic Acid and the antixodant properties in berries. There have been miraculous results credited to these ingredients.

Saving The Lives And Memories Of Thousands

An innovative and exciting new product called Brain Energizer®, developed by the best-selling author of *Your Miracle Brain*, Jean Carper, has been receiving accolades from scientists, doctors and experts in the field. This proprietary blend is the first to include the 6 most effective ingredients in one convenient formula:

- 100 mg of Ultra Absorbable Kaneka™ CoQ10
- 100 mg of *life's*DHA™ Vegetarian Omega-3s
- 200 mg of the potent C3 Complex® Curcumin
- 200 mg of Alpha-PURE™ Alpha Lipoic Acid
- 30 mg of VitaBerry™ Fruit Extract Blend
- 10 mg of Vinpocetex™ Vinpocetine

Brain Energizer® is guaranteed to sharpen your mind and boost your memory. Beyond the proven effectiveness of this formula, it is also extremely affordable. If you were to purchase each ingredient separately you would pay over $100 per month, but Brain Energizer® is priced as low as $19.95 per bottle!

These statements have not been evaluated by the FDA. This product is not intended to diagnose, treat, cure or prevent disease.

iron into the macrophage in extremely high levels.

This iron triggers ever more intense oxidation of the fats that are also locked into the foam cell (engorged macrophage), thus creating a highly toxic mess that looks like pus.

Eventually, the engorged foam cells die and rupture, releasing this toxic pus into the wall of the blood vessel. This, in turn, attracts more macrophages to the site and the process keeps repeating until a large plaque buildup forms along the wall of the blood vessel.

Studies have shown that atherosclerotic plaque contains high levels of iron.[17]

Past Clinical Studies on Iron Were Flawed

This is where hemochromatosis comes into the explanation of faulty studies.

People with hemochromatosis have very low levels of hepcidin, which helps cells absorb iron.[18] What this means is that their macrophages will have very low levels of iron, and therefore will have much lower levels of harmful free radicals that oxidize LDL cholesterol and fats.

The iron in their blood and tissues is mostly bound to transferrin and ferritin, which prevents formation of free radicals.

However, the high iron levels we see with hemochromatosis can damage many other organs:

- Pancreas
- Kidney
- Liver
- Heart

The heart contains low levels of antioxidant enzymes, putting it at a high risk of iron-induced free-radical damage.

If a person with hemochromatosis is also a heavy smoker, has another chronic inflammatory disorder, or eats a diet that lowers antioxidant defenses, they will develop rampant atherosclerosis — because inflammation will raise their hepcidin levels.

This understanding of iron regulation by hepcidin and ferroportin explains why many epidemiological studies came to erroneous conclusions about the role of iron in diseases — they neglected shifting of iron into and out of cells and ignored the fact that bound iron is not harmful the way free iron is.

Physicians skeptical about the benefit of nutritional measures just cannot seem to understand that when an epidemiological study differs radically from what basic science demonstrates, you must rethink how the study was done. This is why so many epidemiological studies are faulty on crucial topics such as these:

- Vaccines
- Mercury
- Fluoride
- Iron
- Cancer

Yet, incredibly, most doctors still rely in such flawed studies.

Excess Iron Causes Heart Attack and Stroke

Most heart attacks and strokes do not result simply from plaque buildup and blockage in an artery. Rather, most heart attacks and strokes are caused by the sudden appearance of a blood clot at the site of an unstable plaque.

When all this inflammation is occurring within a blood vessel, the body tries to contain the problem

Take Vitamin C on Empty Stomach To Protect Against Iron Toxicity

Another myth about iron intake is the so-called harmful effect of vitamin C when combined with iron. In a laboratory test tube, mixing oxidized iron with vitamin C will produce reduced iron, which is the more toxic form. Yet a number of studies have shown that in the body, vitamin C strongly protects against iron toxicity.

Vitamin C can drastically increase iron absorption. In most cases, you do not want increased iron. In some instances, however, you want to absorb more iron.

A nurse once told me that she was severely iron deficient, yet no matter how much iron she took as a supplement, she could not correct her deficiency. I found that she was drinking iced tea with her meals. Catechins in tea strongly bind iron and prevent it from being absorbed.

Many flavonoids in vegetables and phytates in grains also bind iron, and either reduce or prevent its absorption. Vitamin C can overcome these blocking effects and increase iron absorption despite meals high in flavonoids and catechins.

To get the best absorption, always take vitamin C on an empty stomach. That way, you get the antioxidant protection without increasing iron absorption from foods.

by various means:

- Cooling down the inflammation
- Encasing the inflammation in a wall of tough collagen
- Boosting antioxidant defenses

If successful, blockage of the vessel is unlikely. But in many cases, the inflammation only worsens, and eventually the collagen cap over the inflammation weakens and ruptures, spilling toxic pus out into the blood vessel.

This pus triggers a blood clot to form in an effort to keep the inflammation from spreading further — unfortunately, it also shuts off the blood supply in the blood vessel.

Of critical importance to containing this toxic pus is the strength of the collagen cap over the plaque. One of the major causes of weakening of the plaque cap is release of an enzyme called MMP-9 (matrix metalloproteinase-9). This enzyme dissolves the cap, making a rupture more likely. Excess iron seems to promote MMP-9 activation.

A number of nutritional compounds can significantly strengthen the cap, including:

- Grape seed extract (anthrocyanadins)
- Curcumin
- Quercetin
- Ellagic acid
- Hesperidin
- Luteolin
- Vitamin C
- Zinc

These are also powerful antioxidants and anti-inflammatories, which help cool the reactions within the wall of the blood vessel. Not only are these natural substances more effective by far than statin drugs, they are much safer.

There is compelling evidence that excess iron is playing a major role in a number of diseases. The most compelling evidence links iron to neurodegenerative diseases and cardiovascular diseases.

While the evidence is not strong enough to say iron overloading is the cause of these disorders, it is playing a major role in driving the process that is at the root of each disorder.

Research suggests that lowering iron levels may prevent many of these disorders and slow the progression of others.

Next month I will discuss other common conditions that are made much worse by high iron levels. ■

REFERENCES

1. Gisbert, J.P., et al., World J Gastroenterol 2009; 15: 4617-4626.
2. Zecca, L., et al., Nat Rev/Neurosci 2004; 5: 863-873.
3. Moalem, S., et. al., Am J Med Genet 200; 95: 58-66.
4. Namekata, K., et. al., Human Genet 1997; 101: 126-129.
5. Robson, K.J., et. al., J Med Genet 2004; 41: 261-265.
6. Polia, A.S., et al., Ageing Res Rev 2003; 2: 25-37.
7. Mainous, A.G., et. al., Ann Fam Med 2004; 2: 133-138.
8. Mainous, A.G., et. al., Ann Fam Med 2004; 2: 139-144.
9. Sullivan, J.L., Lancet 1981; 1: 1293-1294.
10. Steinbrecher, U.P., et. al., Free Rad Biol Med 1990; 9: 155-168.
11. Halliwell, B. and Chirico, S., Am J Clin Nutr 1993; 57: 7155-7245.
12. Danesh, J. and Appleby, P., Circulation 1999; 99: 852-854.
13. Niederau, C., Hepatology 2000; 32: 672-674.
14. Lee, D-H, et. al., Am J Clin Nutr 2005; 81: 787-791.
15. Mingin, R., Free Rad Biol Med 2003; 34: 746-752.
16. Holvet, P., et. al., Artherioscler Thromb Vasc Biol 2001; 21: 844-848.
17. Ikeda, Y., et. al., Endocrinol J 2006; 53: 665-670.
18. Sullivan, J.L., Exp Biol Med 2007; 232: 1014-1020.

Health and Nutrition Updates

Vitamin D3 and Childhood Allergies

A growing number of studies are showing that vitamin D3 can significantly reduce respiratory infections, asthma complications, and other allergies in children and adolescents. I have personally found that vitamin D3 can dramatically reduce seasonal allergy symptoms in adults as well.

Vitamin D3, which is really a hormone, has been found to modulate the immune system and stimulate the release of a number of antimicrobial peptides that kill viruses, bacteria, and fungi.

One recent study measured serum vitamin D3 levels in 3,136 children and adolescents, along with 3,454 adults, using the National Health and Nutritional Examination Survey (NHANES) conducted by the Center for Disease Control and Prevention (CDC) from 2005-2006. Researchers found that children and adolescents were more often allergic to 11 of 17 test allergens if they had vitamin D3 levels below the normal level of 30 ng/ml.

Those that had full-blown deficiency (less than 15 ng/ml) were associated with peanut allergy 2.39 times higher than those with normal levels. Ragweed allergies increased 83 percent, and oak allergies were 4.75 times higher. Eight other allergies were also increased, according to a report in the Journal of Allergy and Clinical Immunology.

So how common is vitamin D3 deficiency in children? According to the 2001-2004 NHANES, 7.6 million children are deficient, and 50.8 million children are vitamin D3 insufficient —indicating levels below normal but above severely deficient. These findings were published in the journal Pediatrics, in 2009.

According to other studies, published in Archives of Internal Medicine, vitamin D3 supplementation can significantly reduce upper respiratory tract infections, reduce the risk of wheezing in children, and help control asthma in children. In one study, researchers examined the association between vitamin D3 levels and upper respiratory infections among 18,883 participants in the third National Health and Nutrition Examination Survey (NHANES III).

They found that these infections were 70 percent less common when vitamin D3 levels were normal, as compared to those with deficiency. Black, Hispanic, and other dark-skinned children are at the greatest risk.

Isn't it ironic that we are told that we must vaccinate all children to protect those "at risk" for asthma, yet we have powerful evidence that vitamin D3 would do much more to protect them than all the vaccines in the world?

With these startling results, you would think that every pediatrician and family practice physician would be alerted to put all children on vitamin D3 supplementation, especially those with asthma and recurrent infections.

But in fact, the Pentagon couldn't keep this a better secret.

Isn't it ironic that we are told that we must forcibly vaccinate all children so that we can protect those "at risk" for asthma and other conditions, yet we have powerful evidence that giving them vitamin D3 in higher doses would do much more to protect them than all the vaccines in the world?

Why would this be the case? Because vitamin D3 will not make pharmaceutical companies richer. It is a scandal that the medical profession remains silent about this issue.

Hawthorn Controls Inflammation Along With Blood Pressure

Both experimental and clinical studies have confirmed the ability of the plant extract hawthorn to lower elevated blood pressure and improve heart function. A study published last year in the Journal of Neuroinflammation strongly suggests that it may also help protect the brain against stroke damage.

In the study, researchers used a mouse model of human strokes. The animals that received the hawthorn extract had significantly less brain damage than the control animals.

When a person has a stroke, the immune system goes into overdrive — not just in the brain but

throughout the body as well. There is compelling evidence that suggests that immune overreaction in the brain triggers immunoexcitotoxicity, which magnifies brain damage from stroke, meaning a greater neurological deficit that is also more likely to be permanent.

The study measured levels of various immune cytokines (protein molecules that carry out cell communication) such as TNF-alpha, IL-1ß, IL-6, and IL-10. The first three of these cause brain inflammation; the last one, IL-10, suppresses brain inflammation.

Animals given the hawthorn extract had much lower levels of destructive brain chemicals and lower Il-1ß and TNF-alpha, but no change in IL-6, which can protect the brain under certain conditions.

This fall in pro-inflammatory cytokines in itself reduced brain inflammation. Yet even more exciting, IL-10 levels in the brain rose significantly in animals that were given hawthorn extract. This cytokine is a major protector of the brain.

Researchers also reported a significant increase in special lymphocytes (a type of white blood cell) called Tregs that manufacture IL-10 and control brain inflammation.

A previous study using hawthorn found that the extract reduced the amount of brain tissue injured by a stroke, and significantly reduced the severity of the paralysis.

Hawthorn has a very good safety profile. What this means is that people who are taking hawthorn to control their blood pressure or strengthen their heart will have tremendous protection against damage by a stroke, should it occur.

People with normal blood pressure and heart function can also take hawthorn to maintain their good health.

Hawthorn has a very good safety profile. This means that people who are taking hawthorn to control their blood pressure or strengthen their heart will have tremendous protection against damage by stroke, should it occur.

Vitamin A Reduces Measles Mortality

While measles deaths (mostly from measles-related pneumonia) are rare in this country, in other countries death rates can be higher. In one 1990 study in South Africa, doctors examined 189 children who had been hospitalized with measles-associated pneumonia, diarrhea, and croup, as reported in The New England Journal of Medicine.

The median age was 10 months. Half received vitamin A at 400,000 IU as soon as a rash was seen, while half received a placebo.

The researchers noted that vitamin A deficiency was rare in the country's population, yet these children had markedly low levels of serum retinol (a specific form of vitamin A). Compared to the placebo group, the children receiving the vitamin A recovered more rapidly from pneumonia and diarrhea, and had less croup. They also spent fewer days in the hospital.

Of the 12 children who died, 10 were in the placebo group. Vitamin A cut the death rate from measles complication by an unbelievable 50 percent.

Once again, you would never know of this research unless you searched long and hard for it. Why? Because pharmaceutical companies do not want doctors or patients to know of the powerful protective effect of certain vitamins; they want you to think that your only protection is vaccination.

Combining zinc, vitamin A (or beta-carotene), and vitamin D3 supplementation reduces the risk of a child dying even more — as much as 75 percent.

You would think the media and the medical profession would be extolling the virtues of nutrient supplementation from every corner of the world, yet there is nothing but silence.

That South African study is over 20 years old, and its result should be common knowledge by now. Other studies have also confirmed these findings. ■

Ask Dr. Blaylock

Attention Blaylock Readers:

Dr. Blaylock welcomes any questions or comments you would like to share.
Each month, he will select a few to be published and answered in the newsletter.
Please remember that he cannot answer every question.
When submitting a question or comment, please include full name, city, and state.
Please e-mail the doctor at: askblaylock@newsmax.com.

Q: Is it advisable for someone who had a bypass operation and is taking blood pressure medication to use hawthorn?

— Anne P., Diamond Bar, Calif.

A: Hawthorn has been shown to lower blood pressure in a number of studies. In my experience, it is safer than most medications and strengthens the heart muscle while reducing inflammation.

Lowering blood pressure takes a combination of things — diet change, hawthorn, magnesium, coenzyme Q10, and antioxidants. Diet change is critical. This includes avoiding omega-6 oils (vegetable oils), using extra-virgin olive oil, omega-3 oils, eating at least five servings of fruits and vegetables each day, avoiding more than 6 oz of meat a day (choose white meat over red meat), and avoiding high sugar intake and all caffeine.

Antioxidants such as vitamin C, natural E, and B vitamins have been shown to lower blood pressure. A number of flavonoids appear to lower blood pressure and protect the heart as well; these include curcumin, quercetin, hesperidin, ellagic acid, and luteolin.

Q: Doctors can't identify my husband's infection. His hemoglobin is low so they started him on iron. Should he refuse it?

— Gale C., Buffalo, N.Y.

A: Having low iron and hemoglobin is indeed harmful if you have an active infection, because it weakens the immune system. But throughout my years of practice, I have found few doctors, even infectious disease specialists, who were aware that iron infusions during active infections can stimulate bacterial and viral growth and make patients worse.

In such situations, I supplemented with iron, but did so very slowly and carefully, and monitored the patient's iron level and hemoglobin. Sick patients often have difficulty building red blood cells. It is therefore very important to supply higher levels of vitamin C, and all the B vitamins, especially folate, B6, and methylcobalamin.

Blood transfusions are sometimes needed, but they can suppress immunity. Curcumin and quercetin protect the body against harmful inflammation, reduce oxidative stress, and stimulate tissue healing.

Q: I've had Parkinson's for four years and took beta blockers for heart arrhythmia. Six months ago, I had a successful surgery for atrial fibrillation. The Parkinson's returned when the beta blockers were started again. Any suggestions?

— Charles P., Jacksonville, Fla.

A: There are a number of things that reduce heart irritability. You may want to look back at the July 2009 issue of The Blaylock Wellness Report, in which I addressed heart irritability issues.

Carnosine, magnesium, coenzyme Q10, acetyl-L carnitine, and omega-3 oils all reduce heart irritability. Avoiding food excitotoxin additives is essential. A high dose — 1,000 to 2,000 mg/day — of CoQ10 is being shown to reduce the advance of Parkinson's disease.

Q: What supplements might be most beneficial for someone with colon cancer?

— Don N., Rochester, N.Y.

A: An impressive amount of research is showing that curcumin, quercetin, ellagic acid, N-butyrate, and DHA (docosahexaenoic acid) can inhibit colon cancers. They also all enhance the effectiveness and reduce the side effects of chemotherapy — that is, they kill cancer cells and protect normal cells.

There is a very strong connection between colon cancer invasion and growth and glutamate intake. Glutamates (such as hydrolyzed proteins and soy proteins) are found in most processed foods.

Fresh foods, especially vegetables, are essential to reduce cancer growth.

White tea contains a number of anticancer compounds — even three cups of strong white tea a day supplies these cancer-fighting chemicals.

Avoiding excess iron is essential as well. For more details on fighting cancer, see my book "Natural Strategies for Cancer Patients."

Q: Doctors often say that once you start taking statins you can't stop the therapy. Do you think someone can come off statins once he/she has started them?

— Stavros G., Limassol, Cyprus

A: I hear this all the time, and it never makes sense. Do doctors tell you that before you take the drug that you will not be able to stop it? I doubt it.

But there's really no need to take statins. Compelling evidence shows that the death rate reduction offered by statins is something like 0.1 percent — in other words, no different than taking an aspirin a day. Most studies confirm that statins have no beneficial effects for the first year or so of taking them, so stopping them would then have no acute effects.

One can take an aspirin a day until they are on a full program of heart health nutrition as discussed in my previous newsletter on heart health.

Curcumin, quercetin, natural vitamin C, resveratrol, ellagic acid (from pomegranate juice or extract), and omega-3 oils have all shown far greater effects in preventing atherosclerosis and even reversing it than any known statin drug. In combination they are even more powerful.

Most doctors never tell their patients of the severe side effects of these drugs. Avoiding sugar and high-carbohydrate diets is more important than any low-fat diet and most drugs.

Q: My son is in ROTC and drinks protein drinks to supplement his food intake. He throws up bile almost every morning of training. Is this coming from the protein drinks?

— Helen H., Traphill, N.C.

A: Muscles use branched chained amino acids (BCAAs) for structural building. The amino acids from "protein drinks," such as glutamate, cysteine, and aspartate are excitotoxins and can result in injury to certain areas of the brain.

The body can easily absorb BCAAs and utilize them for muscle building. High protein diets put a lot of stress on the kidneys. As for the vomiting of bile, he needs to have a GI workup to make sure there is no disease at play. DGL Plus (Pure Encapsulation) soothes the stomach and esophagus and may help until he can be seen. ■

The **Blaylock Wellness Report** (#82) is a publication of Newsmax Media, Inc., and Newsmax.com. It is published monthly at a charge of $108.00 per year and is offered online and in print through Newsmax.com.

Our editorial offices are located at 560 Village Boulevard, Ste. 120, West Palm Beach, Florida 33409.

For permission, contact the publisher at PO Box 20989, West Palm Beach, Florida 33416.

Publisher Christopher Ruddy
Editor Russell L. Blaylock, M.D.
Contributing Editor David Alliot
Art/Production Director Elizabeth Dole

For Subscription/Customer Service inquires, call 1-800-485-4350 or e-mail wellnessreport@newsmax.com.

Send e-mail address changes to wellnessreport@newsmax.com.