

INFLAMMATION, AND ITS DEEP CORRECTION

from an article by Dr. Lawrence Wilson

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Inflammation is a natural process by which our bodies bring certain cells into an area that has become damaged, in order to effect repairs. These cells include macrophages, fibroblasts, and others.

Some inflammation is definitely beneficial. It occurs in at least two situations, in all cases:

1. Any time tissue damage has occurred inflammation must occur for healing to occur normally.
2. During what is called a retracing, healing reaction, purification reaction or flare-up. These occur during a nutritional balancing program, but not in most other situations...

Unfortunately, today, many people have another situation that is not healthful. This is a type of *chronic inflammation* that does not lead to healing. This type is due to nutritional deficiencies or the presence of certain toxins in the body, as explained later in this article.

Many health authorities are in agreement that this type of chronic inflammation is a serious problem in millions of people worldwide. Yet the medical profession offers little for all these people except for highly toxic anti-inflammatory drugs, for the most part.

In contrast, nutritional balancing science usually stops this type of inflammation at the deepest levels easily and often within a few months to a few years. Let us begin with the symptoms of inflammation, which are many more than one might imagine.

SYMPTOMS OF INFLAMMATION

Inflammation and the stress theory of disease. Inflammation is not just tissue irritation. In the stress theory of disease, inflammation is an early stage of the stress response. When nutrition is imperfect or the body is toxic, however, it can easily become caught in this phase of the stress response, giving rise to hundreds of symptoms.

You may be surprised at some of the diseases and conditions that are caused by or closely related to inflammation in the body. Among the most common ones are *cancers, cysts and tumors, diabetes, most heart disease, arthritis, tendonitis, bursitis, back pain, bronchitis, cataracts, glaucoma, emphysema, indigestion, and in fact any illness that ends with the suffix -itis. Others can include obesity, edema, canker sores, high blood pressure, headaches, stomach ache, itchy skin, neuritis, prostate enlargement, sinusitis, tinnitus, and most aches and pains.*

Still others can be anxieties, mood swings, bad temper, worrying, irritability and even depression, seizures and mental fixations or neuroses. Others include neuropathies, ulcers,

carpal tunnel syndrome, Grave's disease, menstrual and other cramps, fibromyalgia, frequent urination, diarrhea, neuralgia and any condition that ends with the suffix – algia. Still others might include most female organ conditions such as hot flashes, dysmenorrhea, endometriosis, fibroid tumors, varicose veins, spider veins and fibrocystic breasts.

This does not mean that every case of the above is due entirely to inflammation. However, it means that many cases are at least partially due to this cause. It is no wonder that pain medications, blood pressure medication, and others that reduce or control inflammation in various ways are among the most popular drugs today.

BASIC BIOCHEMICAL CAUSES OF INFLAMMATION

While doctors often discuss mechanical and other biochemical causes of inflammation, two causes that are rarely discussed are:

1. **The presence of the “amigos”**, or specific minerals in a bioavailable form, usually oxides. The minerals are manganese, aluminum, iron, chromium, selenium, nickel, and sometimes copper, calcium, magnesium, boron and even lithium and others. These cause oxidant damage to all body tissues, potentially, which causes a type of inflammation.

This cause of inflammation is revealed on a hair mineral analysis by either elevated or very low levels of aluminum, iron and manganese, primarily. The other minerals that may become “amigos” or oxides may also be elevated or very low. As with all the indicators on the test, they can be mild, moderate or extreme, and there can be more “amigos” or fewer of them present. To read more about this interesting biochemical abnormality, read Iron, Manganese and Aluminum – The Amigos on this website.

2. An imbalance between the amounts and types of pro-inflammatory versus anti-inflammatory hormones in the body. The pro-inflammatory hormones include aldosterone and adrenalin or epinephrine, along with other hormones that include dopamine, estrogens, for example. The anti-inflammatory hormones include cortisone and cortisol, testosterone and perhaps others.

This cause of inflammation often, but not always shows up on a hair mineral analysis as a **sodium-to-potassium ratio** greater than about 4. If it is extreme, the ratio may become as high as 50 or greater. Also, if it is extreme, the calcium-to-magnesium ratio may also be above about 9.5. To read more about this pattern, read High Sodium/Potassium Ratio on this site.

3. An early stage of stress called **fast oxidation** or the alarm stage of stress. In this situation, the body is in a fight-or-flight “mode of operation” too much or too often. This tends to cause higher levels of certain hormones and other chemicals such as histamine that result in more inflammation in the body and the brain.

This cause of inflammation shows up as a **fast oxidation rate**. Dr. Paul Eck defined this on a properly performed hair mineral analysis as a calcium-to-potassium ratio greater than 4, and a sodium-to-magnesium ratio less than 4.17. The ratios can indicate mild, moderate or extreme fast oxidation, and the degree of inflammation often correlates well with the ratios.

4. A particular type of stress pattern called a secondary alarm reaction, or secondary stress response of the body.

This pattern is also called in acupuncture yang rising, and it manifests on a hair mineral analysis as **a three highs or four highs pattern**. This means that three or four of the macrominerals (calcium, magnesium, sodium and potassium) are above their ideal levels.

This cause of inflammation is somewhat similar to fast oxidation, but in some ways is worse, while in others it is not as bad. However, it can definitely worsen inflammation and must be removed to reduce inflammation in these cases.

5. **Very slow oxidation** with a calcium shell. In this curious situation, calcium precipitates out of the blood because of low levels of the solvent minerals, sodium and potassium. Calcium then precipitates in the soft tissues such as the joints, the arteries, the liver and elsewhere. One effect is inflammation from mechanical irritation.

Also, the calcium is in a biounavailable form and cannot neutralize acids in the body very well. To read more about this cause of inflammation, read *The Calcium Shell Pattern* on this website.

6. **An excessively acidic pH** at the cellular level or the intra-cellular level. This cause of inflammation is extremely common today. Its basic **cause is a deficiency of what are called the alkaline reserve minerals**. These include common trace minerals such as zinc, copper, manganese, chromium and others. These are replaced by toxic metals, most of which, or perhaps all of which, have an acidic effect upon body chemistry.

An overly acidic pH may also be caused by an improper diet. Food that contribute to this are acid-forming foods such as grains, meats, dried beans and sugars. This is all too common today in Western nations, and indeed, around the world.

Sadly, **fruit-eating may also cause this type of inflammation**, and in fact always does so. Fruit acids are quite harmful and make this food less suitable for human consumption at this time. Unfortunately, fruits are much lower in the alkaline reserve minerals than are vegetables, the main alkaline-forming food in our diets. This is the main reason why nutritional balancing insists upon *a diet of cooked vegetables three times daily*, with no exceptions...

7. **Excessive tissue catabolism** for any reason. This is also a very common occurrence today, unfortunately. Its causes are many, but mainly nutritional or other types of stress on

the body such as worry, fatigue, lack of rest and others.

As the body is unable to maintain key organs and tissues in proper maintenance, inflammation often arises. A very common example is the breakdown of the slippery, smooth cartilage that coats all the major joints. As this becomes roughened, each time the joint moves, it causes mechanical irritation to the joint. The smooth inner lining of the arteries, and indeed other areas of the arteries, can also be disrepair and a state of breakdown due to deficiencies of omega-3 fatty acids and other nutrients, and the constant flexing of these arteries also causes mechanical irritation that worsens the situation. This can lead to the buildup of plaque in the arteries, for example.

The tendency for excess tissue catabolism shows up on a hair mineral analysis as a **sodium-to-potassium ratio less than 2.5**. It is considered extreme if the ratio is **less than about 1**. It is also more extreme if, with the low sodium-to-potassium ratio, the calcium-to-magnesium ratio is less than about 3.

8. The presence of certain infections. While some doctors believe that infection is the opposite of inflammation, and they are correct, at times, other infections directly or indirectly cause inflammation in the body. Many of these are hidden and may produce few symptoms besides inflammation. Most people have some of them.

Well-known examples of this type of infection include candida albicans and amoebic infection of the intestinal tract, some infections of the joints, infection in the walls of the arteries, infection of the bronchials and lungs, and others.

The infection may cause mechanical irritation, or give rise to toxins called endotoxins and exotoxins that are the direct cause of inflammation. The infection might also cause coughing, for example, that leads to irritation of the bronchial passages. Other infections cause tissue breakdown, discussed above. Others may cause inflammation by affecting the pH of the tissues, such as might occur with an infection with candida albicans in the intestines.

A general tendency for infection in the body is indicated on a properly performed hair mineral analysis by a **sodium-to-potassium ratio less than about 2**, with a lower ratio indicating more of them, generally. Other mineral analysis indicators include elevated copper, hidden copper imbalance, low zinc, low phosphorus, elevated mercury and others. To read more about this, read [Boosting The Immune Response](#) on this website.

9. Simple Dietary Mistakes. Improper diet can be the main cause of inflammation. Examples of foods that cause or contribute to excessive inflammation in the body are drinking coffee, especially more than one cup daily, but even one cup of coffee in some cases. Others are too much table salt, eating very spicy food, eating the nightshade family of vegetables (potato, tomato, eggplant and all peppers), food chemicals such as MSG (monosodium glutamate), aspartame and many others, using caffeine in any form, eating fried foods in some cases, especially if the oils are slightly rancid or overheated, eating trans-fatty acids, eating fruit, eating sweets of any kind, drinking too much juice of any kind, drinking alcohol, and even eating too many carbohydrates such as bread or

pastries.

Other important and common dietary mistakes are eating too much raw food, not eating enough cooked vegetables, vegetarian diets that are all deficient in vital nutrients, in my experience, eating fish and seafood that are generally contaminated with toxic metals, and drinking the wrong type of water or not enough water...

10. **Simple Lifestyle Mistakes.** These include not getting enough rest and sleep, too much exercise or no exercise, unhealthy living habits such as too much sex or casual sex that always leads to sexually transmitted diseases that are difficult to identify, let alone cure. Others include fast-paced living, holding on to anger and resentment, skipping meals, eating on the run, eating while driving, overeating, and eating complicated food combinations that are difficult to digest.

11. **Exposure to toxins,** including food chemicals, prescription drugs, over-the-counter drugs and others. Many, if not all toxic chemicals are irritating to the body. This is well known in medical circles, but most doctors – even holistic doctors – do not ask enough questions about possible exposure to common toxins in the food, air, water and through contact.

Simple examples of common toxins most people are exposed to today are chlorine and fluoride in tap water, other chemicals in some tap and well water, air pollution in some areas, most prescription drugs, many over-the-counter remedies, some skin care products such as hair dyes, makeup, lotions, and soaps. Perfumes and other scents used in cosmetic products can be extremely irritating to the body, as can food chemicals such as artificial flavors, colors, preservatives and others. Some people are more sensitive than others to all of these chemicals.

12. **Nutritional and herbal supplements.** Sadly, some nutritional supplements definitely can cause or exacerbate inflammation in the body. Those most likely to do this include bio-identical hormones such as DHEA and thyroid hormones, minerals such as manganese and chromium in excess, and even vitamins in excess such as B-complex, vitamin C and vitamin E. Herbs can also cause inflammation in some cases. Even some homeopathic remedies can increase inflammation.

I do not suggest in any way that the government should restrict our access to higher-dose vitamins and minerals. However, one must be careful and consider the possibility that too much of a good thing can contribute to inflammation in some people.

13. **A need for certain cleansing procedures in the body.** I find that in some cases, inflammation will not resolve until a person cleans the colon thoroughly, for example, and gets rid of often several pounds of old, impacted fecal matter that is often harboring bacteria or parasites that just irritate the body mechanically and chemically, day after day. **Coffee Enemas** are described in detail in the detoxification page on Hair Analysis UK and

on the online shop.

I also find that **sauna therapy** can be extremely helpful to stop inflammation caused by impaired circulation, congestion of the internal organs for various reason, and an imbalanced autonomic nervous system – also described on website.

Another procedure that is most helpful is **chiropractic care** by a competent chiropractor or practicing osteopath. This is necessary for most people, in fact. It does not mean one must go to the chiropractor every week. However, it means that periodic chiropractic care is wonderful for most people.

Another, very simple procedure that helps some inflammation is **foot and perhaps hand reflexology**. This ancient and simple system of healing actually works better than most medical drugs and relieves certain energetic blockages in the body.

Finally, the correct type of mental exercise, sometimes called meditation, is also wonderful for some types of inflammation, especially that related to emotional and mental stress of many kinds. For more on this critical topic, read *Meditation For Healing* on this website.

Below is more detail about some of the causes of inflammation discussed above.

LIFESTYLE-RELATED CAUSES OF INFLAMMATION

Ending inflammation is often just a matter of removing its cause. Too often, doctors overlook the simple but important causes of inflammation in a person's life. Among the most important lifestyle considerations are:

Avoiding toxic exposures. Most toxins are irritants. This includes smoke from any source, exposure to solvents, pesticides, and thousands of other toxic substances. Therefore, to reduce inflammation, it makes sense to live, eat, drink and be in contact only with uncontaminated air, food, water, clothing and other objects in one's environment.

This is not that difficult to do for most people. It requires some attention to one's drinking water and eating mostly organic food. It also means avoiding smoky and dirty environments, and taking precautions when one must expose oneself to chemicals such as paints and others.

Sleep issues. The main one is not enough sleep. Most people need 8 or more hours of actual sleep, no just lying in bed, every single night. Another problem is going to bed too late. Most people need to be in bed by 9 PM to fully regenerate their body each night. Otherwise, tissue breakdown is not fully repaired and irritation and inflammation is often one result.

Dehydration. This is extremely common, in my experience. Causes for dehydration include:

- Not drinking enough water. Most adults need about 3 quarts every day and more if you do outdoor or physical labor,
- Drinking water that does not properly hydrate the body. This is usually due to drinking reverse osmosis or RO water that does not seem to hydrate the body well.
- Drinking RO or distilled water drunk for more than a few months can also demineralize the body and cause inflammation.
- Engaging in habits that dehydrate the body. These include drinking alcohol of any kind, eating sugars, even too much fruit and fruit juices, and ingesting caffeine in any form.

Exercise habits. Too much exercise can wear down the body and stress the joints, tendons and ligaments. No exercise may also stress the body and even interfere with respiration, oxygenation and circulation.

Low oxygenation. Low levels of oxygen found in most cities where auto traffic is high, and in some indoor environments, is irritating and stimulating to the body in harmful ways.

Thinking and emotional habits. This may sound odd, but some people indulge in intense drama, rage, anger, intense emotional upset, intense guilt feelings or other thinking patterns that are inflammatory. These can influence body chemistry if done for a while in an intense manner.

Another very inflammatory response is in people who are very hard driving, hard working, and somewhat intense people. If you are this way, be sure to rest more and learn to relax to keep yourself balanced, as otherwise this can lead to inflammatory cardiovascular, joint and other diseases.

DIETARY CAUSES FOR INFLAMMATION

Our diets must contain plenty of anti-inflammatory nutrients, and as few as possible of the pro-inflammatory substances that commonly found in foods. These are explained below in more detail.

Eating wheat in any form, except for wheat grass juice. Wheat unfortunately is a very hybridized food today. It has a much lower zinc content, less protein and more glutamic acid, an inflammatory amino acid. This combines to make wheat quite an irritating food, and one best avoided by everyone. This even includes organic, whole wheat and spelt in most cases.

Eating sugars and sweets of any kind. This includes natural sugars such as all fruit, maple

syrup, honey, agave nectar, and fruit or other sweet juices and other beverages. Sugars tend to upset the blood sugar, upset calcium metabolism, deplete B vitamins and have many other pro-inflammatory effects.

Drinking alcohol in any form. Alcohol depletes zinc and magnesium, two very important anti-inflammatory nutrients. It also depletes some B vitamins and perhaps other trace minerals. Alcohol also inflames the tissues because it is a physical irritant to the body tissues. Almost all alcoholic beverages also contain pesticide residues and other irritating chemicals. The worst, sadly, is usually wine.

Caffeine and other stimulants. Coffees, especially more than one cup of coffee daily, is quite irritating to the stomach and perhaps other parts of the body. Even caffeinated teas and herbs such as maca are quite irritating.

Chocolate contains a caffeine-like substance called theobromine. Some herbs such as guarana and in fact, many herbs such as ginseng and others can be irritating, especially if used incorrectly or used for an extended period of time.

Not enough cooked vegetables. Vegetables contain many anti-inflammatory nutrients including minerals, vitamins and others. Most people do not eat nearly enough cooked vegetables each day.

Pasteurized, homogenized and otherwise cooked cheese, milk and other dairy products. Dairy products contain some **omega-3 fatty acids, which are anti-inflammatory**. However, if the dairy product is pasteurized and homogenized, and worse – baked, fried, or even just heated more, any omega-3 fatty acids are usually destroyed. Unfortunately, these are the dairy products most people eat every day. Then they wonder why they develop arthritis and other inflammatory diseases.

Dairy products should be eaten raw, if possible, and the cows or other animals should be free range and grass fed, not grain fed, so their milk is higher in omega-3 fatty acids. These products also supply plenty of vitamin D3, a powerful anti-inflammatory nutrient.

Too much red meat. Red meats are high in iron. While we all need some iron, too much is highly inflammatory. Most people need red meat only about twice to three times weekly. An exception is menstruating women who are losing a lot of iron each month. Ideally, meats should be grass fed (pasture-fed) and not grain fed, ideally. The grass fed meat contains much more omega-3 fatty acids.

Food chemicals and additives. Many of these such as MSG, aspartame, food colors, preservatives and others are quite irritating.

The nightshade family of vegetables. These include tomatoes, red and white, and other potatoes, but not sweet potatoes, all peppers (both sweet and hot peppers) and eggplant.

Raw foods are often irritating to the digestive tract for many people, especially those with digestive disturbances. The exception is raw milk, raw cream, raw cheeses and raw yogurt or kefir. However, other raw foods are often irritating because they contain fiber that is difficult to digest, and they often contain infective organisms, parasites and other things that are irritating to the body. This is an important reason I advocate cooking food, except for raw dairy and 10-12 ounces of carrot juice daily.

Common table salt is an irritant. **Sea salt** is far better and usually okay.

Iron-enriched foods. These are mainly white flour and perhaps other refined foods often have added iron. Iron can be extremely irritating to the body.

Chlorinated and fluoridated water. These poisons are also highly irritating to human tissues and the human digestive tract.

Less commonly, other foods are irritating for some people. These include garlic, onions, radishes and perhaps others. Foods that are heavily sprayed with pesticides may also cause significant irritation in susceptible individuals.

Fish, especially tuna, salmon, shellfish and seafood, are somewhat irritating today in most cases due to their high mercury content. This accounts for some cases of so-called food poisoning from these foods.

Sardines, however, are high in omega-3 fatty acids and have some vitamin D3 and other superb anti-inflammatory substances as iodine. Meanwhile, they are quite low in mercury and other pro-inflammatory toxic metals.

Vegetarian diets. Most vegetarian diets are low in a number of anti-inflammatory nutrients including calcium, magnesium, zinc, omega-3 fatty acids and vitamin D3. These are very difficult to obtain in large quantity, especially with a vegan diet. If one is willing to eat raw dairy products and eggs, this is much less of a problem. However, meats are one of the few good sources of zinc, as well as other essential anti-inflammatory nutrients such as taurine.

Skipping breakfast and other poor eating habits. This can add significant stress to the body. The body may literally go into a **fight-or-flight reaction due to hunger** in these cases. Regular, quiet, sit down meals, and eating slowly, chewing thoroughly and resting for at least 10-20 minutes after the meal is soothing for the digestive system and the body

as a whole.

Other practices to avoid are eating or drinking very hot or very cold foods or beverages, drinking a lot of water or other beverages with meals, and getting upset at mealtime. Wait to eat if you are very anxious or upset. Avoid noisy restaurants or upsetting conversation at mealtime for best digestion.

A diet low in food anti-oxidants. An important cause of inflammation in the body is damage from free radicals or singlet oxygen atoms. This is also called oxidant damage. Many foods contain substances that counteract this damage to some degree. Such substances are called anti-oxidants. Hundreds of them exist. Cooked vegetables, in particular, contain hundreds of others such as flavinoids, xanthines, colors found in red, orange, yellow, blue and green foods, in particular, and many others. Sadly, many people's diets do not contain enough of these substances, and this is one cause of inflammation.

NOTE: I do not recommend taking a lot of anti-oxidant supplements, as some holistic practitioners may recommend. I find it much better to obtain your anti-oxidants from the diet. The main reason for this, besides the cost, is that so far, all the anti-oxidant food supplements I have reviewed, which is over two dozen, are very yin in Chinese medical terms. These make the body more yin, which is very harmful today. Even if these supplements reduce inflammation, their yin effects make them harmful for overall health. Very small amounts are fine, such as a little of vitamins A, C, E, zinc and selenium. Larger amounts are not good in almost all cases, especially if continued for more than a month or so.

MEDICAL AND OVER-THE-COUNTER DRUGS

This is a major source of inflammation in some people. The most commonly used ones are actually the non-steroidal anti-inflammatory drugs such as Tylenol, Aleve, Excedrin, Anacin and many others. Even aspirin causes stomach ulcers in some people. These drugs inhibit some inflammation, but they have other side effects that are often worse.

Other classes of drugs that can worsen inflammation include statin drugs, thyroid medication, amphetamines, asthma drugs and many others. Always read the side effects if you take any drug. Stop drugs that are causing severe side effects and look for natural alternatives. Long-term use is worst.

Even natural remedies, vitamins, minerals, and herbs can cause inflammation, although these are much less common causes. For example, B-complex vitamins can enhance the oxidation rate and cause irritation in a few people. High-dose manganese, potassium, chromium, selenium, vitamin C and vitamin E, if taken for a prolonged period of time, are irritating for some people because they can deplete other vital nutrients in the body. This is why I always seek to balance body chemistry using hair mineral testing, rather than just give remedies that can make some people worse.

TOXIC METAL POISONING

This is probably one of the major causes of inflammation today, especially in the Western nations where the food is deficient in nutrients and the air, water and food are often contaminated with toxic metals.

All the toxic metals such as aluminum, mercury, lead, arsenic, cadmium, nickel and a dozen others are highly inflammatory because they all damage human tissue. They do this in many ways, from impairing enzyme activity to mechanical and other types of damage.

Removing one's toxic metals with nutritional balancing science often reduces inflammation rapidly. We do not recommend chelation, including oral chelation. It is not safe as it usually removes some vital minerals along with the toxic metals. This includes the use of natural substances such as chlorella, cilantro extract, high-dose vitamin C and other natural forms of chelation. We find that if one balances the body chemistry these methods are totally unnecessary in most cases, and harmful in some cases.

TOXIC CHEMICALS IN THE ENVIRONMENT

Many chemical toxins damage the body by causing inflammation of the lungs, the skin, the liver and other organs.

A CASE HISTORY OF INFLAMMATION

Shirley, age 52, is a real estate agent who had been to half a dozen doctors complaining of severe arthritis and headaches. Somewhat sadly, it only took me about two minutes to review her basic intake information, before I ever met her, to see why she had such a terrible inflammation problem. Here were the reasons:

- Lifestyle: Shirley only slept 6 -7 hours per night, exercised hard and pushed herself in her work.
- Diet: Shirley was a vegetarian, and drank several cups of coffee and green tea each day. She ate a lot of wheat and tended to eat grilled cheese that had been pasteurized and homogenized. She ate no fish, so she got very little omega-3 fatty acids or vitamin D from her diet. She also skipped breakfast each day and just had coffee with some sugar in it. She also ate out often at restaurants and ate a lot of prepared foods that are high in table salt and often have irritating chemicals in them such as MSG, Aspartane and hundreds of others.
- Drugs: Shirley was taking a synthetic thyroid replacement hormone, even though her hair mineral analysis showed that her thyroid was somewhat overactive. This is very dangerous, by the way, but is a common finding. The article [Thyroid Conditions](#) explains why the serum hormones can appear low in some of these cases.
- A hard driver or triple inflammation pattern. Once I saw Shirley's hair mineral analysis, it revealed more reasons for inflammation. She had a severe inflammation pattern

with four high macrominerals, a high sodium/potassium ratio, a high calcium/magnesium ratio, the beginning of a calcium shell, a very low zinc, a very low phosphorus indicating poor digestion and improper diet, and elevated aluminum, indicating the presence of the 'three amigos' or 'three oxidants' – toxic compounds of iron, manganese and aluminum. She also had the 'double 0's'. This is when the levels of toxic metals such as lead, mercury, cadmium, arsenic or nickel are extremely low, in the parts per billion range. Because most people at Shirley's age have plenty of these stored in their tissues, when the levels are very low, I know that Shirley is having difficulty eliminating her toxic metals, which means they are building up inside of her.

HAIR ANALYSIS INFLAMMATION INDICATORS

A properly performed and properly interpreted hair mineral analysis is fabulous to assess inflammation. It can also sometimes detect biochemical causes of inflammation mentioned above. Here are the main indicators:

- A sodium/potassium ratio above about 5.
- A calcium/magnesium ratio above about 10, especially if combined with a high sodium/potassium ratio.
- A four lows pattern.
- A three highs or four highs pattern.
- High levels of any toxic metals, but particularly cadmium, lead, or nickel.
- A "hard driver" pattern. This is a combination of a three highs or four highs pattern, plus a high sodium/potassium ratio and a high calcium/magnesium ratio.
- A calcium shell is often associated with calcium deposits causing joint and tissue inflammation.
- Iron above 2 mg%, aluminum above 0.5 mg% or even less, or manganese above about 0.04 mg%. These are called the three amigos, because if any one of them is present, most people have all three in excess. These form oxides that cause oxidant damage.
- Elevated copper or any indicator for a hidden copper imbalance often signifies inflammation as well.
- An elevated chromium or selenium may also indicate the presence of excessive oxides that cause oxidant damage.
- The "vampire" pattern (fast oxidation with an elevated sodium/potassium ratio, usually in a woman but not necessarily).

Each of these patterns can be more or less severe. In addition, many people show more than one of these indicators. I often refer to such a person as having a double

inflammation pattern, or a triple inflammation pattern, for example.

BLOOD TEST INFLAMMATION INDICATORS

Common indicators are an elevated C-reactive protein. On blood tests, this is often abbreviated as CRP. Less reliable indicators are an elevated cholesterol, elevated triglycerides, elevated iron, elevated blood sugar above about 90 mg/dl, elevated white blood count, high uric acid, and elevated liver enzymes such as AST, ALT, GGT, LDH or others. A high sedimentation rate might also indicate inflammation. This is sometimes abbreviated on blood tests as eGFR.

Other possible indicators are elevated thyroid hormones, low TSH, high bilirubin, and blood or protein in the urine. An abnormal urine pH is also often indicative of some inflammation.

CORRECTION OF INFLAMMATION

Most physicians falsely focus on giving anti-inflammatory drugs, while holistic and naturopathic practitioners give a host of anti-inflammatory nutrients such as fish oil, zinc and anti-oxidants to deal with inflammatory problems. This is better in some cases, but rarely addresses the underlying causes of the problem.

In contrast, a nutritional balancing program that is correctly designed will identify a dozen causes of inflammation, and move the body chemistry away from these patterns and back into healthier metabolic patterns. When this is done, inflammation usually goes away permanently, without any need for remedies or drugs of any type. To read more about this method of correction of inflammation, read *Introduction To Nutritional Balancing*, and *Nutritional Balancing, A Universal Science*.