



Contributory Factors for Osteo and Rheumatoid Arthritis, Spinal Disc Disease, and Osteoporosis

by
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In the United States diseases related to the bones, joints, spine, and immune system are escalating each year. Modern medicine has done very little to remedy these situations other than to perform surgeries, such as joint replacement, and administer drugs to reduce inflammation and pain. In the meantime, people continue to suffer and pay ever rising health care costs for treatments that offer no hope. These same treatments also increase the same health problems they are trying to reverse due to the negative effects of the drugs, and introduce other health problems.

Taking Care of Your Car

Even though a person may not be a car mechanic he or she knows that the car has to have the oil and filter changed regularly and the right type of fuel, or the engine will become damaged and eventually break down. People also know better than to put water or some other liquid besides gasoline in the fuel tank or the engine will not run. Other maintenance has to be performed as well, such as tune-ups and wheel alignments, or your car will begin to run horribly and eventually just fall apart.

The Human Machine

While the human body is made up of flesh, blood, and bone instead of metal and other non-loving material it is similar to a car. It requires the right type of fuel, clean healthy water and natural unadulterated food, to keep it running smoothly and efficiently. When sufficient amounts of the right type of fuel is lacking, and the body is subjected to water contaminated with chemicals such as chlorine and sodium fluoride, and other liquids such as coffee, alcohol, milk, sodas, soy products, and sugary drinks, along with foods that are processed, full of chemical additives, cooked excessively, or microwaved, the human machine will be begin to run horribly and eventually breakdown. It also doesn't help when other health destroying factors, such as smoking, come into play. And just like a car that runs better when driven regularly, the human body needs a consistent schedule of the right types of exercise to keep it running smoothly.

Taking Care of the Human Machine

When we purchase a car it comes with an owner's manual on how to properly take care of it. While this article is not a manual it does provide information that can assist you to understand some of the things that can contribute to health problems that have to do with the health of the bones, joints, spine and immune system. But please understand that your health can benefit in many other ways as well such as improved cardiovascular health.

Contributory Factors for Osteo and Rheumatoid Arthritis, Spinal Disc Disease, and Osteoporosis

Milk and milk products (See www.notmilk.com)

From my many years of experience I have learned that milk and other dairy products are some of the worst foods you can consume. I have seen many people's health improve dramatically, including my own, when dairy was eliminated from the diet. For in-depth details how bad dairy is for the body go to the web site listed at the beginning of this paragraph.

Some details about dairy are that it has too much phosphorous, protein, and fat. Blocks absorption and activity of vitamin D. Is an excess mucus producer, blocks absorption of nutrients in the digestive tract, and is allergy producing. Children suffer from ear infections. I can't begin to count the number of children whose ear infections cleared up after the parents took them off of dairy. There is an increased risk of milk alkali syndrome weakening the kidneys and preventing conversion of vitamin D into calcitrol, the bioactive form of D for calcium absorption and immune system health. Symptoms include back and loin pain (related to kidney stones from calcium deposits), excessive urination, and other problems that can result from kidney failure. Some people advocate [raw milk](#) but it has its drawbacks as well. And contrary to popular belief cow's milk is not a good source of calcium as the body does not utilize it very well. It's interesting to note that people around the world that use the most dairy have the shortest life spans and suffer the most from disease, including cancers. See [Coral Calcium What Are the Facts? Buyer Beware!](#)

As a substitute for dairy do not use soy as it is not the health food people think it is as the next paragraph highlights. Instead of drinking soy milk you can use rice and almond milk. As for ice cream there is the Imagine Foods Rice Dream made from rice with half the fat.

Unfermented soy foods (See www.soyonlineservice.co.nz)

Soy contains phytoestrogens called isoflavones which suppress thyroid function. Contain trypsin inhibitors that inhibit protein digestion and affect pancreatic function. In test animals, diets high in trypsin inhibitors led to stunted growth and pancreatic disorders. Soy increase body's requirement for vitamin D. Phytic acid in soy foods results in reduced bioavailability of iron and zinc required for healthy bones, cartilage, and discs, healthy immune system, and DNA repair. Limit intake of soy foods and only use small amounts of fermented soy foods such as tempeh and miso. Instead of drinking soy milk you can use rice and almond milk.

Sodium Fluoride (See www.fluoridealert.org)

All of the research about fluoride for decay-prevention was actually from *calcium* fluoride, not *sodium* fluoride. Depending on the mineral content of the water source calcium fluoride can form when there is adequate amounts of calcium present, and may be of some benefit. It is interesting to note that research shows that fluoride, whether calcium or sodium, is one of the major aging factors.

Sodium Fluoride - Toxic Waste

The form of fluoride put into the drinking water and used by dentists is *sodium* fluoride, a toxic poison from the aluminum and fertilizer industries and was used primarily as a rat poison before city municipalities were duped into thinking it was necessary to put into the water supplies to fight tooth decay. By having city municipalities buy their leftover sodium fluoride to put into their water supplies the aluminum and fertilizer industries not only do not have to pay to legally dispose of this toxic waste but they also make money, especially since the price to purchase it went up over 1,000%.

Sodium Fluoride Banned and Not Used In Other Countries

Researchers in Europe who studied the effects of sodium fluoride on humans found that it was not safe for consumption resulting in its ban and illegal use in Denmark, Holland, Sweden, Belgium and Germany. However, countries such as France and Norway never used sodium fluoride because they never found a sound scientific reason to use it.

The Negative Effects of Sodium Fluoride

In his book titled, "*Fluoride, The Aging Factor*" written by Dr. John Yiamouyianni there is hard scientific information he provides about the damaging effects of sodium fluoride.

Brown Decaying Teeth

Disrupts and blocks cellular enzyme activity (required for metabolic processes)

DNA Damage

Collagen Destruction

Genetic Damage

Immune System Damage

Accelerated, or premature aging

Serious disorders - such as lupus, sclera derma, rheumatoid arthritis and other forms of arthritis.

Cancer and other degenerative conditions

Weakened bones

Osteoporosis

Arthritic pain

Skeletal fluorosis - A condition where there is too much fluoride in the bone.

Skeletal fluorosis 1st Stage - Symptoms can include pain in the bones and joints, burning, pricking, and tingling in the limbs, muscle weakness, chronic fatigue, reduced appetite and disorders of the digestive system. During this stage x-rays can detect that the bone has a more prominent and blurred structure and that there are changes in the pelvis and spinal column.

Skeletal fluorosis 2nd Stage - If left unchanged the condition can worsen to where there is constant pain in the bones and some of the ligaments start to calcify. The long bones, such as in the legs, may become osteoporotic, or lose bone tissue, and osteosclerosis (this is when the bones become more dense and develop an abnormal crystalline structure that can more easily fracture and break) may be present. Bone spurs may begin to appear around the arm and leg bones especially around the knee, elbow, and on the surface of the tibia and ulna.

In **3rd Stage Skeletal fluorosis**, or extreme skeletal fluorosis, also referred to as crippling skeletal fluorosis, the arms and legs become weak and movement is difficult, while the vertebrae become fused together, crippling the individual.

Disrupts healthy thyroid function

The thyroid gland is involved with many functions of the body such as temperature control, basal metabolic rate (oxygen consumption), carbohydrate/fat/protein metabolism, nervous system function, cardiovascular system (normal functioning of the heart), muscular system, skeletal system (promotes normal growth and maturation of the skeleton for developing children and in adults assists in the demineralization of the skeleton), gastrointestinal system (promotes healthy bowel tone, GI motility or movement, and digestive enzymes), reproductive system (promotes normal female reproductive ability and lactation), and promotes normal hydration and secretory activity of the skin.

NOTE: One can see that if the thyroid is disrupted it can be difficult to maintain a healthy body weight and can explain one reason why so many people are gaining abnormal weight, especially fat, and having a difficult time in losing it. Many also feel that the sodium fluoride is contributing to the abnormal height of some people and to broad bottoms.

Sodium Fluoride is A Poison

In his book "**Fluoride, The Aging Factor**" Dr. John Yiamouyiannis warns "Fluoride is a poison!" "The 1984 issue of Clinical Toxicology of Commercial Products lists fluoride as more poisonous than lead and just slightly less poisonous than arsenic. It has been used as a pesticide for mice, rats and other small pests. A 10-pound infant could be killed by 1/100 of an ounce and a 100-pound adult could be killed by 1/10 of an ounce of fluoride. The Akron Regional Poison Center indicates that a 7-ounce tube of toothpaste contains 199 mg. of fluoride, more than enough to kill a 25-pound child."

Dr. John Yiamouyiannis also says in his book, "Fluoride interacts with the bonds which maintain the normal shape of proteins. With distorted protein, the immune system attacks it's own protein, the body's own tissue."

The visual and physical effects from prolonged exposure to fluoride include nausea, bloody vomit, faintness, stomach cramps, tremors, constipation, aching bones, stiffness, skin rash, weight loss and brown or black discoloration of the teeth.

Natural Fluorine in Food

It is healthier, more efficient, and safer to get our fluorine from foods rather than taking inorganic and chemically produced fluorides. Obtaining organic fluorine from foods along with organic calcium from foods and in combination with high quality calcium and other minerals such as magnesium and zinc in supplements will assist the body in building a strong healthy surface on the teeth and bones. And the natural fluorine also protects the body from germs and viruses.

Natural Sources of Fluorine

Good sources of natural fluorine include foods such as avocado, garlic, goat milk, goat cheese, and goat butter, greens, parsley, brown rice, spinach, tomatoes, dates, cauliflower, cabbage, organic egg yolks, cod liver oil, brussels sprouts, and black eye peas. It is best to eat organically grown foods as much as possible.

Elimination of Sodium Fluoride for Good Health

Obviously if we want to have good health we have to eliminate sodium fluoride from our drinking water. And while natural fluorine in foods is easily removed as it evaporates during cooking, water containing sodium fluoride does not. That being the case we should not cook with water containing sodium fluoride in addition to not drinking it. If you plan on using a filter for your water or are presently using one make sure from the manufacturer that it does remove sodium fluoride.

Chlorine

Chlorine is a powerful toxic chemical that was used to kill soldiers in war. First used in United States in 1908 New Jersey to kill bacteria in drinking water. Mixes with decaying organic matter in ground and surface water producing chemicals called trihalomethanes that are proven to cause cancer. Research has demonstrated that it damages and destroys vitamin E, all of the B vitamins such as folic acid (folate) and interferes with the function of zinc which in turn will affect DNA repair, immune system function, and in general cause every cell in the body to deteriorate more quickly causing pre-aging and diseases such as arthritis, osteoporosis, diabetes, heart disease, various cancers, depression and other mental disabilities, and autoimmune diseases such as rheumatoid arthritis. Also, destroys the friendly bacteria in the digestive tract affecting absorption of nutrients, causing immune system problems (70% of immune system is in the small intestine), reduces ability to protect the body from absorbing other pathogenic bacteria and fight off parasites. Chlorine removes iodine from the thyroid disrupting healthy thyroid function. Don't drink chlorinated water, and use a shower filter as a hot shower and bath increases the absorption of chlorine. Also, try to find a swimming pool without chlorine. Read article - [Chlorine - "Crippler and Killer"](#)

Microwave Oven

It's interesting to note that the microwave oven was developed during World War II when Hitler in Nazi Germany was looking for a fast method to cook food in the field for his soldiers. After the war when Russia and the United States invaded and defeated Germany they found the research on microwaves and brought it back to their respective countries. Please note what others have discovered about the food cooked in microwave ovens.

In Dr. Lita Lee's book, ***Health Effects of Microwave Radiation - Microwave Ovens***, and in the March and September 1991 issues of ***Earthletter***, she stated that every microwave oven leaks electro-magnetic radiation, harms food, and converts substances cooked in it to dangerous organ-toxic and cancer causing products. Further research summarized in this article reveal that microwave ovens are far more harmful than previously imagined.

Some of the findings in a Russian Study on foods that were cooked in a microwave published by the Atlantis Raising Educational Center in Portland, Oregon are:

- Microwaving prepared meats sufficiently to insure sanitary ingestion caused formation of d-Nitrosodienthanolamines, a well-known cancer producer.

- Microwaving milk and cereal grains converted some of their amino acids into cancer causing chemicals.
- Thawing frozen fruits converted their glucoside and galactoside containing fractions into cancer producing substances.
- Extremely short exposure of raw, cooked or frozen vegetables converted their plant alkaloids into cancer producers.
- Cancer causing free radicals were formed in microwaved plants, especially root vegetables.
- All of the food had decreased nutritional content.

Russian researchers also reported a marked acceleration of structural degradation leading to a decreased food value of 60 to 90% in all foods tested. Among the changes observed were:

- Decreased bio-availability of vitamin B complex, vitamin C, vitamin E, essential minerals and lipotropic factors in all food tested.
- Various kinds of damage to many plant substances, such as alkaloids, glucosides, galactosides and nitrilosides.
- The degradation of nucleo-proteins in meats.

Don't let convenience ruin your health. Avoid microwaving and use conventional ovens to bake or broil.

Insufficient weight bearing exercise

Such things as walking, working in the garden or around the house, and swimming are not sufficient to maintain strong bones and joints. You need a planned targeted resistance training program done a minimum of 1 hour three days a week. Start slowly, 10 to 15 minutes, and build your way up. This can be accomplished with machines, free weights, and resistance bands. [Rotation for Recuperation: How to Exercise Sensibly for Results](#)

Over-weight

When a person carries excess body weight in the form of fat, even as little as 20 pounds, it can put undue wear and tear on the joints, particularly the hips and knees, causing them to wear out.

Smoking (cigarettes, cigars, pipe)

Smoking produces too much carbonic acid robbing body of oxygen and creates an over-acid pH leaching minerals from the body. Destroys vitamins like E, C and A, decreasing protection from free radicals which damage cells and increase inflammation, pain, heart disease, and toxic metal cadmium builds up increasing risk of high blood pressure. Also, decreases collagen production weakening the skin (causing wrinkles and pre-aging), bones, cartilage and support tissues such as tendons and ligaments. Can increase inflammation.

Alcohol

Alcohol is naturally acidic and dehydrates the body, and creates free radicals that damage cells and uses up vitamins and minerals. If in excess destroys vitamins and minerals required for healthy DNA and repair of cells such as bone, cartilage and support tissues. Alcohol destroys prostaglandin 1(PGE₁), a hormone-like substance, increasing the risks of inflammation, arthritis, pain, heart disease, brain and immune dysfunctions..

Coffee

A natural diuretic, acidic and dehydrates the body. If in excess, more than two cups daily, can increase the acid pH causing loss of minerals and vitamins required for healthy DNA, increase inflammation, pain, and heart disease.

Sodas and other soft drinks

Sodas and other soft drinks contain little to no nutrition, are very acidic, and dehydrate the body. They contain too much phosphorus leaching calcium from the body and causes the loss of vitamins and other minerals. Eliminate these foodless, nutrition sapping, dehydrating drinks and use pure healthy chemical free water and teas with containing natural minerals.

Distilled Water

Distilled water devoid of minerals making it is very acidic to the body and also leaches the chemicals in the plastic bottles they are contained in. No culture on earth naturally drinks distilled water, they drink water containing minerals. If you have a distiller, or buy distilled water, you can put minerals back into the water by adding natural minerals from [Source Naturals Ion Charge™ Ionic Minerals](#) Use about 1 to 2 teaspoons per gallon.

Dehydration

Many people are dehydrated due to not drinking enough water, and using too much coffee, sodas, milk, alcohol, and fruit juices. As a result the spinal discs of the back shrink and lose their support and cushioning effect creating pain. Also, the cartilage requires water to maintain healthy synovial fluid production for lubrication. The cartilage also needs water to maintain its shock absorbing qualities. If dehydration becomes too severe it can cause the cartilage and spinal discs to dry out and become brittle and damaged. 50% of back pain sufferers were found to be dehydrated.

How to Calculate Your Daily Requirement for Water

To calculate your water requirements divide your body weight by 2. **Example:** A 180 pound man divided by 2 equals 90 ounces, or 11 to 12 glasses of water.

Even more water is required for smokers, dieters, active people, people living in high altitudes, hot/cold weather, seniors, pregnant women, nursing mothers, babies and school age children, prescription drug users, and drinkers of dehydrating beverages.

Salt

In particular from table salt which is mined from land and lacks trace minerals. Too much salt interferes with absorption of other nutrients and removes calcium from the body. Americans average around 17,000 mg a day, or 3 1/2 teaspoons of salt. whereas a safe level is 3,000 daily. If you must use salt use natural sea salt or organic seaweeds which contains around 60 trace minerals from the ocean.

Processed fats and oils (margarine, fried foods, hydrogenated or trans fatty acids)

These unnatural processed oils and fats are used heavily in the fast food industry and in processed foods in grocery stores. These fats will destroy the body's natural essential fatty acids. These fats cannot be used by the body and will contribute to many diseases such as cancers, diabetes, and promote inflammation which in turn will weaken the immune system as well as contribute to heart disease, osteoporosis, and osteo and rheumatoid arthritis as the immune system attacks the bone and joints, and produce pain. Natural healthy oils and fats include unrefined extra virgin olive oil and sesame oil. Coconut oil is good as well. Also, see information below on arachidonic acid. Never use extreme heat or fry with these oils.

Too much arachidonic acid

Arachidonic acid (AA) is an essential fatty acid that mainly comes from eating animal meats such as steak, chicken, turkey and from dairy, eggs, and peanuts. When there is an excess of AA it causes the body to produce too much of a prostaglandin called PGE₂ and modified forms of PGE₂ called leukotrienes, which increase pain and inflammation. Elevated AA, PGE₂, and leukotrienes are also involved with asthma, psoriasis, dermatitis and other autoimmune diseases such as lupus, while AA and PGE₂ stimulate cell division and growth and can be directly linked to cancers and tumors.

To reduce AA and PGE₂ reduce the intake of the foods listed above and eat more fish such as salmon, sardine, tuna, lake trout, anchovy, and pilchard which contain more omega-3 fatty acids EPA and DHA. Make sure the fish are not fried. If you do not eat fish very often, or you do not eat it at all, you can supplement with fish oil capsules such as [OmegaLogic™](#). Fish oil increases the production of PGE₃ which reduces inflammation and pain.

Essential Fatty Acids Alpha-Linolenic Acid and Linoleic acid

Besides omega-3 fatty acids EPA and DHA from fish you can also eat foods such as chia, flax, pumpkin, and walnuts and dark greens containing the essential fatty acid Alpha-Linolenic Acid (ALA). Another essential fatty acid includes Linoleic acid (LA) from foods such as nuts, seeds, grains, legumes, most vegetables, and fruit. Both ALA and LA help with production of PGE₃ which lower inflammation.

GLA Supplements Had Negative Effects

Another essential fatty acid is Gamma Linolenic Acid (GLA). However, studies have demonstrated that those who had rheumatoid arthritis and increased their intake of GLA by taking Evening Primrose Oil supplements decreased EPA and increased their levels of arachidonic acid which contributes to inflammation.

Reference:

1. J. Janti et al., "Evening Primrose Oil in Rheumatoid Arthritis: Changes in Serum Lipids and Fatty acids," *Ann Rheum Dis* (1989): 124-7

Omega-3 Fatty Acids EPA and DHA from Fish Oil Offered Superior Results

In other studies omega-3 fatty acids from fish oil offered far better results in reducing inflammation in rheumatoid arthritis. The patients also had less morning stiffness and tender joints than the control group that did not receive the fish oil, and they had favorable changes in suppressing the production of inflammatory chemicals secreted by white blood cells.

References:

1. J. Kremer et al., "Fish Oil Supplementation in Active Rheumatoid Arthritis: A Double-Blinded Controlled Cross-Over Study," *Ann Intern Med* 106 (1987):497-502

2. R. Sperling et al., "Effects of Dietary Supplementation with Marine Fish Oil on Leukocyte Lipid Mediator Generation and Function in Rheumatoid Arthritis." *Arthritis Rheum* 30 (1987):988-97

The Omega-3 fatty acids and the ALA produce the prostaglandin PGE₃ and the essential fatty acid LA produce the prostaglandin PGE₁ which are required for proper immune function, reduce and control inflammation and pain, regulate brain function, protect against heart disease including heart attack, stroke, blood pressure, and inhibits blood clots, often alleviates dry eye, regulates action of insulin to reduce damage to the heart, eyes, nerves, and kidneys in all forms of diabetes, healthy prostate, supports healthy metabolism for weight loss and obesity, PMS, Multiple Sclerosis, and hyperactivity in children.

Medications and Prescription Drugs

drugs such as cortisone, Advil, and other NSAIDs alleviate the pain and inflammation by blocking the production of the prostaglandin PGE₂ and leukotrienes, but they also interfere with the production of the prostaglandins PGE₁ and PGE₃ which naturally reduce inflammation and pain and are needed by the body to maintain healthy bone, cartilage, synovial fluid, and a healthy cardiovascular system. Long term use of these drugs will contribute to the destruction of the joints and bones.

Destruction of the Digestive Tract and Immune System

The above listed medications and drugs also destroy the friendly bacteria in the digestive tract reducing the ability to properly absorb nutrients and eliminate waste, prevent parasites and the buildup and absorption of toxins and pathogenic bacteria from the intestines, and create a leaky gut which will induce food allergies and a negative immune system response. Since 70% of the immune system is in the small intestine it can become overwhelmed, weaken and lose its ability to recognize friendly cells and begin to attack your own body such as the cells of the cartilage and bone and blood vessels. If this situation is not corrected autoimmune diseases such as lupus and rheumatoid arthritis can result and inflammation throughout the entire body will occur elsewhere such as the cardiovascular system increasing the risks of heart attack and stroke.

Aspirin robs the body of copper especially the stomach wall. Copper is needed with vitamin C to produce elastin and healthy collagen tissue to maintain a healthy stomach wall to protect it from acid during digestion. Over time the stomach will produce an ulcer. Copper is also needed to maintain healthy blood vessel walls and their elasticity, as well as for production of the antioxidant superoxide dismutase, an enzyme that protects the body from free radicals such as the superoxide and other peroxides which damage cells such as cartilage.

Fosamax (Found to cause jaw bone death. Osteonecrosis - Bone Death)

Researches have found that while Fosamax does help to build denser bone it has not prevented fractures. This is because instead of improving bone health it actually makes them more brittle, which of course makes them more prone to fractures, the exact opposite of what you want. Also, it was found that even if people stopped taking Fosamax it can remain in the body for up to ten years. Please note what one researcher Susan Ott, MD, of the University of Washington wrote in a 2004 letter published in the *Annals of Internal Medicine*, "Many people believe that these drugs are 'bone builders,' but the evidence shows they are actually bone hardeners." Natural healthy bone while very sturdy and has more strength than steel the same size, is also very flexible. If bone becomes too hard then it can more easily fracture and break. [Fosamax - A Drug with Deadly Results](#)

Processed Foods

Foods that have been processed, such as white flour and rice, fried foods, frozen TV dinners, candy, boxed cereals, microwavable foods, potato chips and other snack foods are loaded with excess salt, sugars, and chemical additives. These types of foods are deficient in vitamins, minerals, and enzymes and cannot nourish the body and in fact will rob the body of vitamins, minerals, and enzymes as the body will use these up in trying to digest these dead devitalized foods sapping your energy and health.

Unchelated Minerals

Most supplements use minerals that are not properly chelated for absorption. They break down in the digestive system blocking absorption and destroying other nutrients. Popular minerals used are gluconates, carbonates, oxides, sulphates, fumarates, and chlorides. Minerals are very important to the health of the bone, cartilage, spinal discs, cardiovascular system, DNA repair and functions, and enzymes for myriads of metabolic processes.

Hyaluronic Acid

To properly lubricate the joints the body must maintain a healthy synovial fluid consistency and balance. If the synovial fluid dries out, or becomes too thin, the joints will create too much friction from movement and eventually will deteriorate and become inflamed causing pain and stiffness. A mucopolysaccharide, called hyaluronic acid, binds protein, water and other substances to form synovial fluid, and is required to maintain its effectiveness.

Hyaluronidase Enzyme and Lead (toxic heavy metal)

While most everyone has some level of lead in their body researchers have found that around 38% of the people with arthritis have higher levels. They have also found out that the higher level of lead activates an enzyme called hyaluronidase which destroys hyaluronic acid and the synovial fluid. The decomposed synovial fluid then spreads to the surrounding lymphatic vessels of the joint causing swelling.

Too Much Calcium

In people with arthritis they discovered that they had too much calcium in their bodies and too little magnesium. Too much calcium prevents magnesium from working preventing the calcium from being used properly by the body as well. When the calcium and magnesium levels are properly balanced they can prevent the lead from activating the hyaluronidase enzyme no matter how elevated. Magnesium also helps to remove the lead.

Vitamin and Mineral Deficiencies

Research has also demonstrated that sufficient amounts of vitamin E inhibits the production of the hyaluronidase enzyme. The levels of vitamin E as well as A, D, and the B-complex are usually lower in people with arthritis. For the body to produce sufficient amounts of hyaluronic acid the minerals magnesium, manganese, and cobalt found in B-12 are required and are also usually found to be low in people with arthritis. For proper absorption and utilization, including sublingual, the supplemental B-12 should be in the form of methylcobalamin. Cyanocobalamin that most supplements contain is inactive and has to be converted before it can be used by the body.

Vitamin D

Vitamin D is considered both a hormone, since the body can produce it when the skin is exposed to sunlight, and a vitamin. Scientists have found that vitamin D is needed not only to promote absorption of calcium and phosphorous from the small intestine and bone formation, but also works with the immune system to keep it functioning normally and regulates the health and activity of 20 different tissues including the brain and cell growth. Without sufficient vitamin D certain immune cells would attack the bone tissue, and when there is an adequate amount other immune cells help to build bone. Research has found that people do not receive enough. They are now requiring 800 IU daily or more with an upper safe limit of 2,500 IU daily. Vitamin D must be converted into the biologically active form, calcitrol, for use through the liver and kidneys with enzymes. And these enzymes cannot be produced and activated unless the minerals zinc, magnesium, manganese, and boron are in sufficient supply.

Free Radicals and Chemical Damage

Our bodies are constantly attacked by free radicals that have unpaired electrons that seek out cells and rob them of their electrons and by chemicals which can damage them. If enough cells are damaged, such as cartilage, bone, and synovial fluid, there will be inflammation and pain. And the damage can be so severe that it can cause serious health problems such as arthritis and heart disease. Free radicals come from many sources such as the oxygen we breathe, the chemicals in the air, water, and foods that are fried or burned, and we even make free radicals when we digest our foods and exercise.

Protection From Free Radicals

Protection from these free radicals and chemicals come from antioxidants such as vitamins A, beta carotene, C, E, and the mineral selenium. With enough vitamin C and adequate B vitamin riboflavin-5-phosphate the body can produce the amino acid L-glutathione for protection from free radicals, and with selenium it can produce L-glutathione peroxidase to protect us from free radicals and chemicals. Free radicals such as the superoxide can overtime, if left unchecked, destroy the synovial fluid and cartilage while all the time producing inflammation and making it painful to move. When the minerals zinc, copper, and manganese are in plentiful supply the body can produce a very powerful antioxidant called superoxide dismutase which neutralizes this free radical.

Too Much Protein or Too Little Protein (Essential amino acids)

If too much protein is eaten, especially animal, the body can become too acidic and leach minerals causing bone loss, or if too little protein there would not be enough essential amino acids to build tissues such as bone and muscles, maintain a healthy immune and gland and organ systems.

Vitamin C

Vitamin C maintains a protein called collagen which is essential for the formation of connective tissue in skin, ligaments, tendons, cartilage, and bones. It works with certain enzymes in the body to form the amino acid L-proline from two other amino acids, L-glutamate or L-ornithine. In turn, proline is used by the body to form another amino acid called hydroxyproline. Vitamin C also is needed to act as a coenzyme to convert lysine to hydroxylysine. Hydroxylysine and hydroxyproline are essential in maintaining a very stable collagen structure, which is likened to glue that holds the body tissues together.

Increased Need for Vitamin C

The need for vitamin C increases with age because of the need to regenerate collagen. Studies have shown that vitamin C protects and enhances cartilage formation while research has proven that excess vitamin C is crucial to the maintaining of healthy cartilage cells. Among the elderly, insufficient intake of vitamin C is quite common. This has resulted in altered cartilage production and compromised cartilage repair.

Research has proven that vitamin C is critical to the production and protection of healthy cartilage cells. Vitamin C also assists in converting the inactive form of folic acid into the bioactive form, folinic acid, which is required for the conversion of the toxic amino acid homocysteine into cystathionine. Elevated homocysteine levels are known to break down the collagen in the bone and artery wall weakening these structures.

Recommended sources of vitamin C should be either in an ascorbate form or Ester C as they are non-acid. Since vitamin C is quickly used up due to physiological, psychological, emotional, and chemical stress, a minimum of 1,000 milligrams three times daily, or 3,000 mg, should be used, or more. At least half or equal amounts of bioflavonoids should be taken as well as they assist its absorption and activity.

Folate Deficiency

Ongoing research is discovering that only 200 to 400 mcg of synthetic folic acid found in most supplements can be converted by the body into the bioactive form. After that it seems that unconverted folic acid fills the blood and cells of the body and prevents the bioactive folates such as tetrahydrofolate, folinic acid and L-5-methyltetrahydrofolate from entering. Also, about 40% of the population have a mutated gene that will not allow them produce the enzyme required to convert folic acid into a bioactive form.. In addition to taking in synthetic folic acid from supplements it has also been added to prepared foods since 1998 as mandated by Federal Law.

Medications such as aspirin, cholesterol lowering drugs, cortisone, cough syrups, oral contraceptives, phenobarbital, tetracyclines, anticonvulsants also interfere with the absorption and action of folates.

Researchers are discovering that the excessive intake of synthetic folic acid from supplements and prepared foods with its poor conversion rate, and for some no conversion at all, is preventing the bioactive forms of folates from being used by the body to maintain healthy homocysteine levels. Excessive levels interfere with healthy bone formation and damage blood vessels contributing to heart attacks and strokes. These bioactive folates are also involved in the repair and maintenance of DNA. Without healthy DNA, cells such as bone and cartilage, will gradually weaken contributing to bone loss and joint problems, as well as other health issues.

Supplements that contain the bioactive folates are [MultiFuel™ Iron Free Multiple](#), [B-Logic™ B Complex](#), and [MethylFolate 1mg 60 Vcaps™](#).

Food Sources of Folates

Natural forms of folates are found in high concentrations in green leafy vegetables such as kale, spinach, beet greens, and chard. Also, foods such as legumes, asparagus, broccoli, cabbages, ripened oranges, root vegetables, whole grains, and some nuts such as almonds, filberts. It is very sensitive to heat and light and easily destroyed by cooking.

For further details on natural folates read [Folate and Reduced Risk of Alzheimer's Disease](#)

B-12 Deficiency

B-12 is also required as well to maintain healthy homocysteine levels. Excessively high homocysteine increases the risks of cardiovascular disease, vascular disease, coronary heart disease, heart attacks, strokes, alzheimer's disease, kidney disease, psoriasis, breast cancer, acute lymphoblastic leukemia, neural tube defects in babies, and osteoporosis. Also, a deficiency of B-12 over time will lead to severe

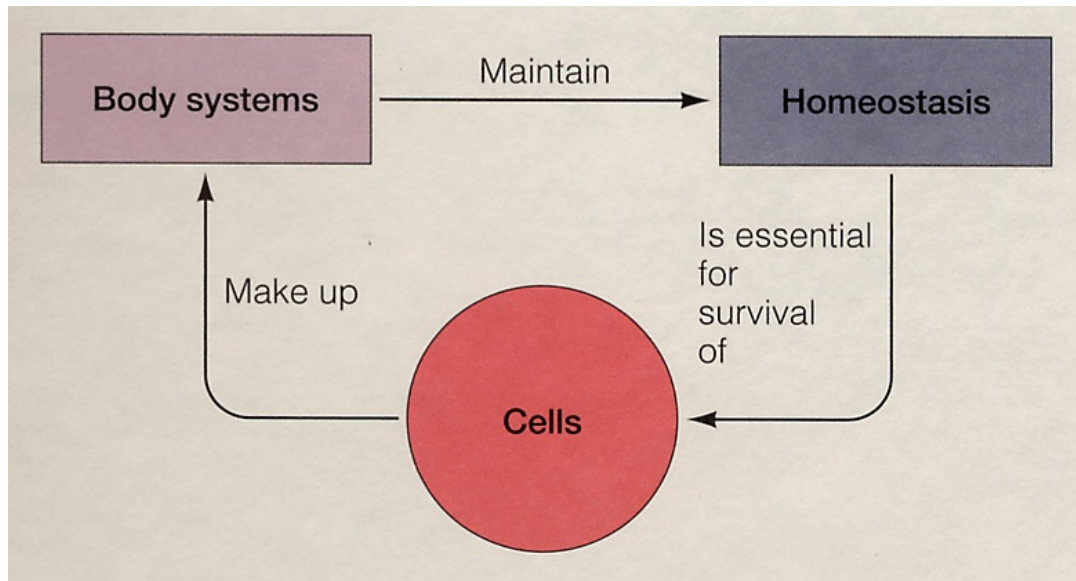
and permanent nerve damage. One of the symptoms of B-12 deficiency is a pins and needles feeling and burning sensations in the hands and feet, and other surfaces of the body.

B-12 - Bioactive Form

It is recommended that supplemental B-12 be in the bioactive form of methylcobalamin as the inactive form, cyanocobalamin, has poorer absorption and has to be converted in the liver before it can be used. Many people, especially the elderly, those with illnesses, nutrient deficiencies, excessive stress, liver problems, genetic abnormalities have a difficult time doing this. Also, many of the same medications that interfere with the natural folates affect B-12 as well.

Supplements that contain the bioactive form of B-12 are [MultiFuel™ Iron Free Multiple](#), and [B-Logic™ B Complex](#) along with B-6, another B vitamin that works in conjunction with the bioactive forms of folates and B-12 in maintaining a healthy homocysteine level.

Maintaining Homeostasis for Promoting Good Health and Prevention of Disease



Balance is Required for Optimal Health

To have good health we must maintain homeostasis, or balance, of all the required elements such as vitamins, minerals, other antioxidants from plant sources, protein (amino acids), carbohydrates, fats, enzymes, water, soluble and insoluble fiber, and probiotics, or friendly bacteria.

Too Little or Too Much Can Upset the Balance

We are only as strong as our weakest link. If we do not get enough of just one of the elements listed above we break homeostasis, or balance, which weakens the cells that make up the body systems such as the cardiovascular, respiratory, immune, and nervous systems. This also includes the bones, joints, glands, organs, and skin. And the same holds true if we take in too much of something such as calcium which will prevent magnesium from working causing bone loss and disrupt the entire body as it is required for the manufacture of over 300 enzymes. And some of these enzymes are needed to process fats, carbohydrates, proteins, energy production, maintain a healthy heart beat and blood pressure, and repair the DNA to maintain healthy cell function.

Reduce Your Exposure to Health Destroying Influences

We also have to eliminate as much as possible things that can damage the body such as smoking, alcohol, drugs and medications, processed foods, fried foods, microwaved foods, chlorine and sodium fluoride, sodas and other non-nutritious drinks, chemicals and pollutants, sugars, unfermented soy foods, dairy, bad fats, and other forms of irritants and oxidants, over-eating, excess body fat and weight.

Use It or Lose It

The body is meant to be used. Exercise improves our energy, blood flow and oxygen uptake, strengthens bones, improves digestion and elimination, reduces stress and depression and improves the mood, and maintains a healthy metabolism for proper body weight, prevents muscle loss., and helps us to keep our stamina and balance as we age. A regular program of exercise, aerobically and anaerobically (resistance training) should be performed weekly.

There Is No Magic Bullet

Once an individual learns what is required to overcome disease and maintain good health throughout their life it must be put into action. There is no magic bullet or special drug, herb, supplement, or food. If you want to improve your health and keep it that way you must improve in all areas of your life, eat fresh healthy food, drink clean unpolluted water, exercise regularly, get proper sleep and rest, have a healthy positive mental attitude, use high quality science based supplements, and eliminate bad habits and lifestyles that damage the body.

DISCLAIMER: The information in this article is for educational purposes only, and is not intended to provide medical advice which should always be obtained from a qualified health practitioner, and has not been approved by the U.S. FDA.