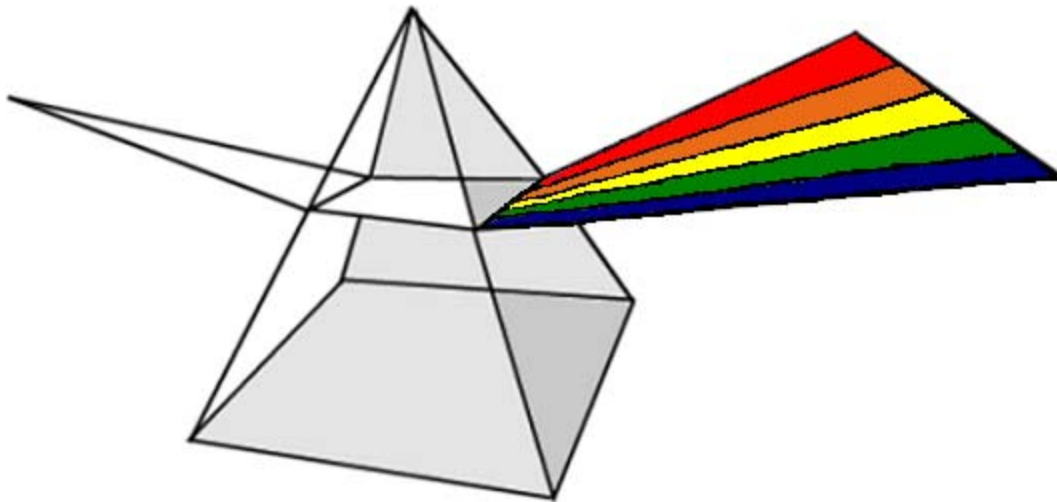
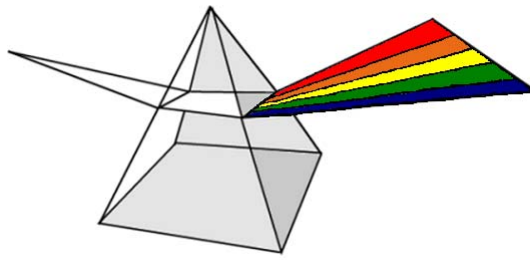


Check Your Health



**Mega (Comprehensive) Panel
For
JOHN L DOE
October 1, 2009**

Check Your Health



Protective Medicine for Your Optimal Health

Congratulations, JOHN L DOE! You have taken an important step toward understanding your own biochemistry. Knowledge is power and with this knowledge you will be able to make better choices about your lifestyle.

Protection to prevent oxidative damage is more optimal in the **green** and **blue** ranges of the report scale. The **green** area statistically represents one to two standard deviations beyond the average. The **blue** area statistically represents two to three standard deviations beyond the average. If your values are within the **yellow** range, you have enough nutrients to deal with everyday metabolic needs. However, in order to benefit from the effects of these compounds, a level in the **green** or **blue** range is most desirable. Not all tests follow this exact color format due to the nature of the particular test (ie. fatty acids, free T3, leucine, etc.). Values that lie in the **orange** or **red** area in most instances indicate a need for improvement through diet and other means.

Standard laboratory results are considered acceptable if they are within two standard deviations of the mean. This is based upon the notion that 95 percent of the population is healthy, which we know is incorrect. For instance, health statistics indicate that one-third of the people in the "acceptable" range may develop cancer.

Most studies of the incidence of disease in relation to nutrient intake reveal that people in the upper one-fourth (**blue** and **green** range) of a group have the lowest incidence of illness.

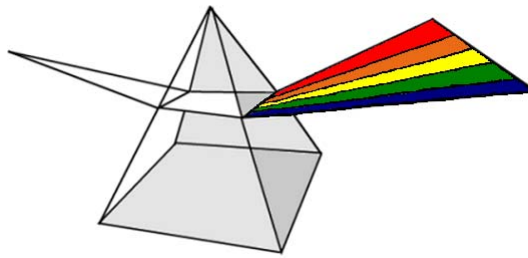
In our reporting Health Hunter / Beat The Odds results, the term "more optimal nutrient level" is used when an individual's specific nutrient level is in the upper one-fourth (**green** and **blue** range) of the population.

Although you may not have received optimal values this time, you now have an opportunity to review your nutritional intake and make adjustments to enhance your biochemical status. We suggest that antioxidant levels be tested every year to check your progress.

We recommend that you eat more of the nutrients listed in this report. You may want to learn more about nutrients by reading materials in the Mabee Library at The Center or by purchasing our audiotapes, videotapes, or books at the Gift Of Health store at The Center.

The human body biochemically changes most of its cells every six years. Most cells in the body change more rapidly. Imagine how you want your body to be six years from now. Through Know Yourself / Beat The Odds, you have the resources to be that person.

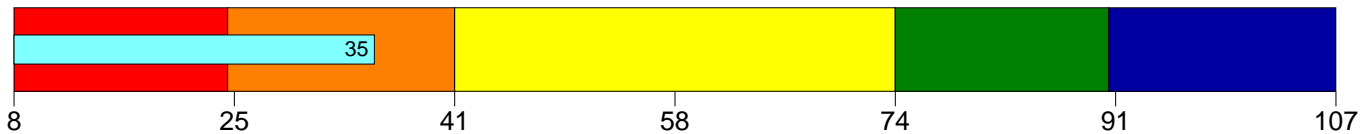
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Protective Medicine for Your Optimal Health

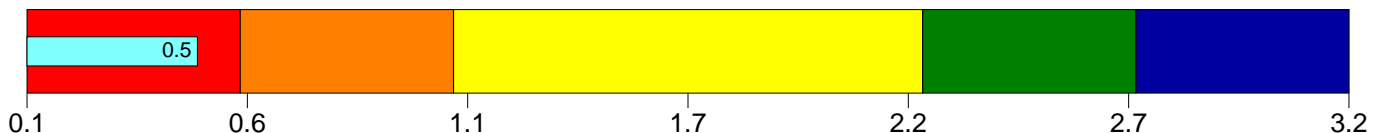
Results For JOHN L DOE
Specimen obtained 10/01/2009

Vitamin A



Your serum vitamin A level measured 35 ug/dL. While the normal range is 24 to 90 ug/dL, the optimal level for antioxidant protection is 74 to 107 ug/dL. At optimum level, cell membranes and epithelial cell layers are protected from degenerative processes. Free radicals are effectively converted to stable molecules, allowing the body to function at an efficient level. Vitamin A is a fat (lipid)-soluble antioxidant vitamin that can be introduced into the body through animal or vegetable foods. Generally, orange or dark green foods are good sources of beta carotene. Beta carotene is sometimes called pro-vitamin A because it converts to vitamin A with a 1:2 ratio when it is metabolized. The body only converts beta carotene to vitamin A based on its needs. Provided your absorption, metabolism and thyroid are effective, beta carotene is the safest way to supplement for low vitamin A levels.

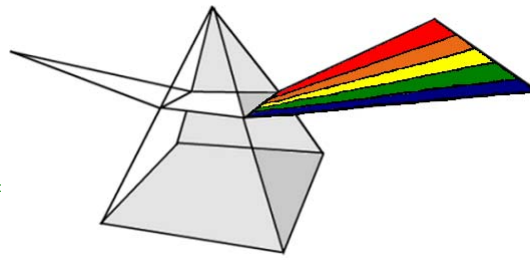
Vitamin E



Your serum vitamin E measured 0.5 mg/dL. While the normal range is 0.6 to 2.7 mg/dL, the optimal level for prevention of degenerative diseases is 2.2 to 3.2 mg/dL. Vitamin E is fat (lipid)-soluble antioxidant and very important for protection of cell membranes, which are made up of lipids. Vitamin E protects cells from "lipid peroxidation," which damages cell membranes. In the cardiovascular system, arterial walls are damaged, which leads to plaque formation and can result in stroke or heart attack. Vitamin E also acts as a powerful fibrinolytic agent that causes blood clots to disintegrate and also as a vasodilator that will increase the blood supply to the heart by widening the arterial lumen.

One reason low-fat diets have been effective in delaying degenerative processes is that the body does less work fighting lipid peroxidation. "Bad" fats are found in hydrogenated oils (i.e. margarine), BBQ meats, and any food made with hydrogenated fats. Because fats are needed for vitamin E to be effectively absorbed, it is important to eat foods rich in natural oils or fat. Nuts and seeds are good sources of vitamin E.

Check Your Health



Protective Medicine for Your Optimal Health

Results For JOHN L DOE
Specimen obtained 10/01/2009

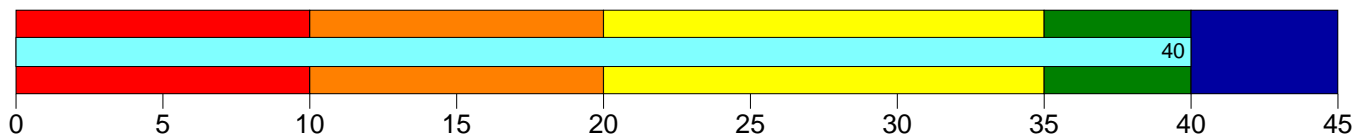
Vitamin C, Plasma



Your plasma vitamin C measured 1.8 mg/dL. While the normal range is 0.6 to 2.0 mg/dL, the optimal level for antioxidant protection is 1.7 to 2.4 mg/dL or above. Vitamin C is a strong water-soluble antioxidant and promotes the normalization of cell function throughout the body. In addition to free radical stabilization, with vitamin C you may see improvements in your health including fewer colds, prevention of bleeding gums, reduction of anxiety, fewer asthmatic episodes, and reduction of overall allergies. Vitamin C is found most abundantly in citric fruits and green vegetables. If you are supplementing vitamin C, loose stools may indicate that you have reached bowel tolerance.

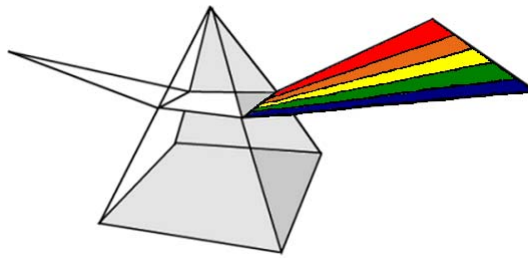
Vitamin C is the most familiar vitamin among the general public and scientists. More than 4,000 studies have been conducted on this vitamin. Vitamin C is a water-soluble nutrient that is easily assimilated in the body. Humans are one of six species that can't produce vitamin C. Therefore, all of the vitamin C needed by the body must be consumed in the diet or by supplementation.

Vitamin C, Urine



Your urine vitamin C measured 40 mg/dL. The optimal level for urine vitamin C is greater than 35 mg/dL. Urine vitamin C gives a good indication of your vitamin C reserve. If your plasma vitamin C level is high and your urine vitamin C level is low, your body is fully utilizing the amount that you are consuming. If both levels are high, then you are utilizing what you need as well as assuring you have adequate reserves.

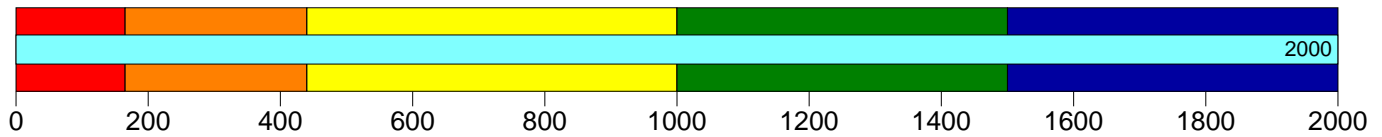
Check Your Health



Protective Medicine for Your Optimal Health

Results For JOHN L DOE
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Vit. B12-Cobalamin



Your serum vitamin B12 level measured 2000 pg/mL. While the normal range is 165 to 1100 pg/mL the optimal level is 1000 to 2000 pg/mL. B12, a water-soluble vitamin, is necessary to convert homocysteine back to methionine. For this reason low vitamin B12 levels tend to raise homocysteine levels. It is, however, important to remember that poor B12 status is common in the elderly, vegans and in individuals who cannot absorb B12 due to GI problems. Vitamin B12 is used in the formation of DNA and red blood cells. Some congenital defects have been linked to vitamin B12 deficiency. Decreased levels can be found in individuals with diminished efficiency of heart function, anemia, fatigue, irritability, loss of appetite, frequent headaches, heart palpitations, pernicious anemia, cognitive decline, poor memory and a reduction in reasoning skills. Food sources include liver, oysters, fish, clams, salmon, poultry and eggs.

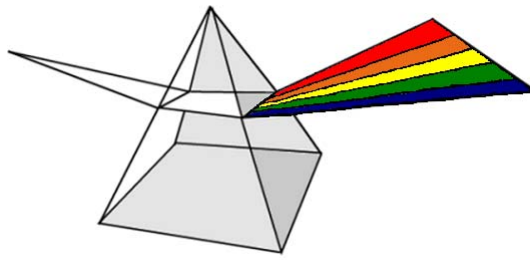
Folic Acid (Folate)



Your serum folate (folic acid) level measured 7.0 ng/mL. While the acceptable level is 7.2 to 17.2 ng/mL, the optimal level is greater than 14.7 ng/mL. Folate, a water-soluble vitamin, is required for cell energy and serves as a precursor for nucleic acids and as a repair mechanism for damaged DNA. Folate plays a major role as a methyl donor that converts homocysteine back to methionine, thereby lowering your homocysteine level. If optimal levels of folate are not present, an unhealthy buildup of homocysteine may occur.

Preconceptual folate deficiency appears to be a risk factor for neural tube defects in fetuses (spina bifida). Recent studies point to low folate levels for increasing the risk of heart attack, stroke and peripheral arteriosclerosis. In addition, increased risk for cancers of the colon and uterine cervix have been associated with low folate levels. This may be due to its ability to repair and synthesize DNA. Low levels are seen in patients who are depressed or have Alzheimer's disease. Food sources rich in folate are liver, salmon, eggs, whole wheat, asparagus and green leafy vegetables.

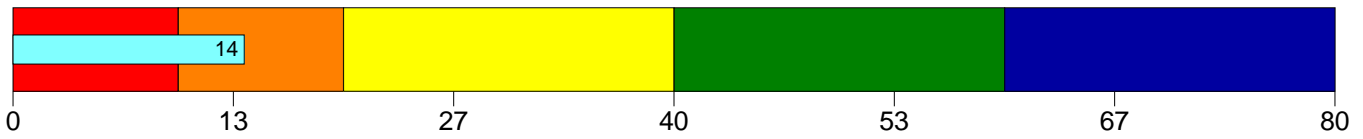
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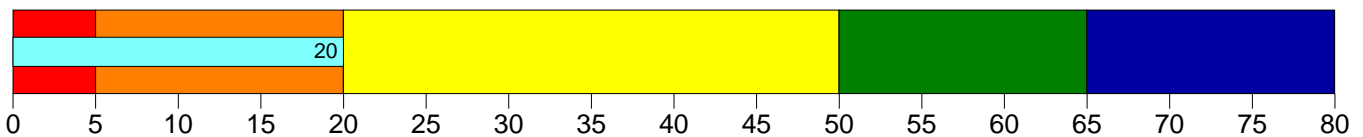
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Vitamin D (25-OH-D)



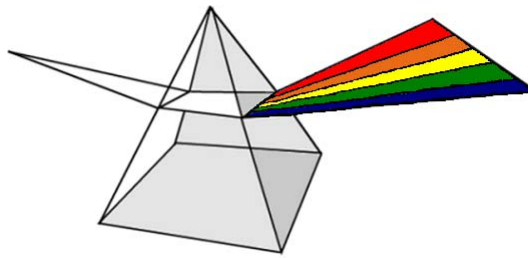
Your vitamin D (25-hydroxyvitamin D) measured 14 ng/mL. The optimal range for vitamin D is 40 to 80 ng/mL. Low levels of vitamin D, a fat (lipid)-soluble vitamin, are associated with an increased risk of prostate, breast and colon cancer. The Framingham Heart Study, which included 1,739 participants, found that those with blood levels less than 15 ng/mL had twice the risk of a heart attack or stroke in the next five years as compared with those with a higher level of Vitamin D. Low Vitamin D levels play a role in brain function (i.e. alzheimers, learning, memory, and depression). In addition, the measurement of vitamin D is important in the management of various disorders of calcium metabolism associated with postmenopausal osteoporosis, rickets, neonatal hypocalcemia, pregnancy, nutritional and renal osteomalacia and hypoparathyroidism. A deficiency in magnesium and boron can lead to decreased levels of vitamin D. An excellent source of vitamin D is 20 minutes of sunlight per day. Food sources include milk, cod liver oil, cold water fish, butter, egg yolks, and green leafy vegetables.

Beta Carotene



Your serum beta carotene measured 20 ug/dL. While the normal range is 5 to 65 ug/dL, the optimal level of serum beta carotene is 50 to 80 ug/dL. Beta carotene, a fat (lipid)-soluble vitamin, is a very large molecule that is converted to vitamin A with a 1:2 ratio when it is metabolized. The body only converts beta carotene to vitamin A based on its needs. Natural beta carotene is the best way to increase your level and to achieve health benefits. Carrot juice has the highest concentration of beta carotene and is a refreshing sweet drink. You cannot be harmed by consuming too much beta carotene. However, your skin may have a yellow-orange color when you have reached your limit.

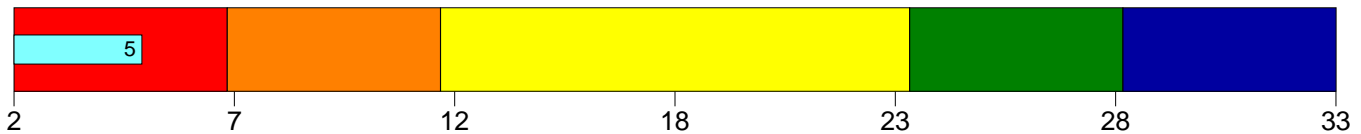
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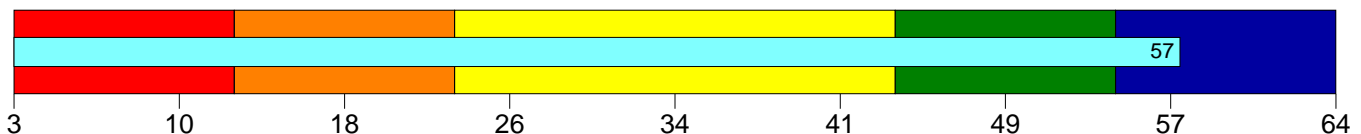
Results For JOHN L DOE
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Lutein



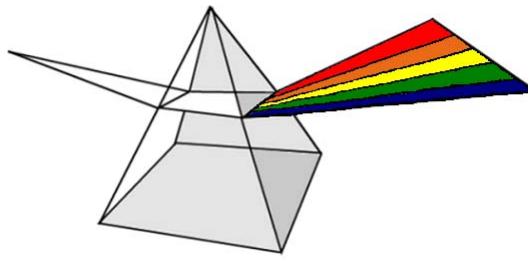
Your serum lutein measured 5 ug/dL. While the normal range is 7 to 28 ug/dL, the optimal level is 23 to 33 ug/dL. Lutein is a fat (lipid)-soluble carotene that is found in the highest concentrations in the portion of the retina in the eye called the macula lutea. This is the area where the lens focuses sharp images. The macula lutea contains a yellow pigment called lutein. The presence of lutein may prevent or limit damage due to oxygen "free radicals" and singlet oxygen, which are generated in the retina as a result of the simultaneous presence of light and oxygen. Damages to this area develop into what is termed macular degeneration. Smokers and blue eyed postmenopausal women each have about 1/2 of the lutein in their macula lutea as compared to a premenopausal brown eyed person or to a non smoker. In addition they will have a 400 percent to 500 percent greater likelihood of developing macular degeneration. Optimal levels of HDL are also desirable as it serves a role in its ability to transport lutein from the liver to the retina. Foods that contain the highest levels of lutein are corn, melons, spinach, kiwi fruit, orange juice, zucchini and squash.

Lycopene



Your serum lycopene level measured 57 ug/dL. While the normal range is 13 to 54 ug/dL, the optimal level for serum lycopene is 44 to 64 ug/dL. Lycopene is a fat (lipid)-soluble carotene. It is one of the strongest antioxidants available and has been shown to reduce the risks of various cancers, especially cancer of the prostate. High levels of lycopene also protect against breast and ovarian cancer. Higher lycopene concentration in the serum is also associated with a lower risk of cardiovascular disease, as found in a recently completed study on middle aged and elderly women. The study found that people whose concentration was in the upper 3/4 of serum lycopene concentration had a 50% reduction in cardiovascular disease as compared to those whose serum concentration was in the bottom 1/4 of lycopene concentration. Foods that have the highest levels of lycopene are red tomatoes (not the yellow ones), catsup, tomato paste and tomato juice. The incidence of prostate cancer in Italian men (where tomato products are consumed in large quantities), is about 60% less than in the U.S.

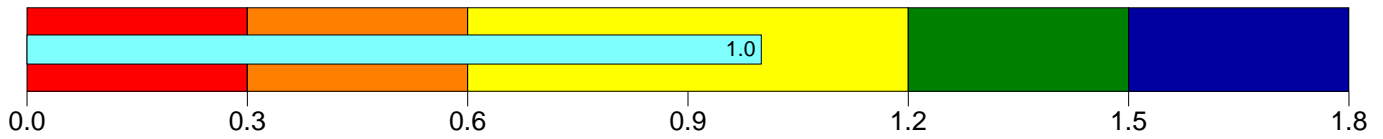
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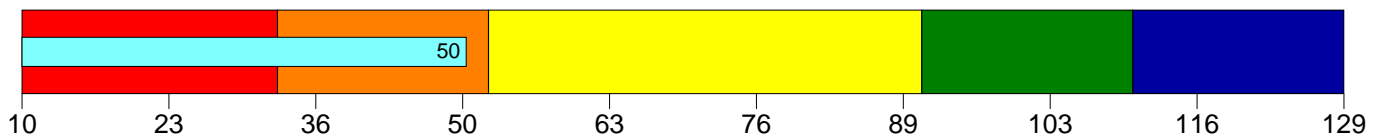
Coenzyme Q10



Your serum Coenzyme Q10 measured 1.0 ug/mL. While the normal range is 0.3 to 1.5 ug/mL, the optimal level of serum Coenzyme Q10 is 1.2 to 1.8 ug/mL. Coenzyme Q10 is an antioxidant found in the mitochondria of every cell in the body where it interfaces to produce ATP (adenosine triphosphate). ATP is the fuel that our cells use for energy. Without constant replenishment, our entire body store of ATP would be depleted in less than 8 seconds with vigorous exercise. 80 percent of the energy that the heart utilizes comes from ATP. Heart, skeletal muscle, and liver cells contain the highest number of mitochondria. Optimal levels help to maintain vitamin E in its active (reduced) form, protect LDL from oxidation thus inhibiting plaque formation in arteries, increase longevity and immunity as well as preventing cancer, cardiovascular disease, hypertension, periodontal disease and various asthma symptoms. Food sources include meat especially liver and heart. Coenzyme Q10 is also found in milk fat, eggs, spinach, alfalfa, potatoes and soybeans.

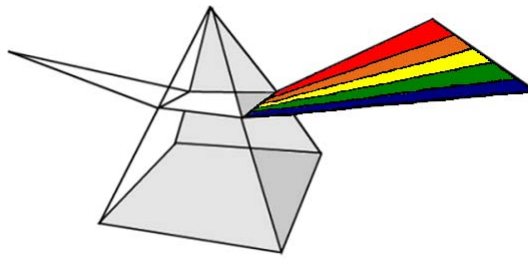
B ASSESSMENT PROFILE

Vit. B1-Thiamine



Your blood vitamin B1 measured 50 ug/L. While the normal range is 33 to 110 ug/L, the optimal level of Vitamin B1 is 91 to 129 ug/L. Vitamin B1 is water-soluble and involved in numerous metabolic processes in the peripheral nervous system and the brain. It is a powerful antioxidant and increases the abilities of vitamins E and B6 to destroy free radicals. Excessive alcohol consumption can cause a deficiency of B1, resulting in severe psychiatric problems.

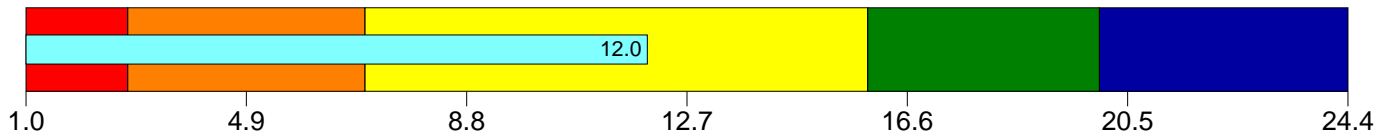
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Vit. B2-Riboflavin



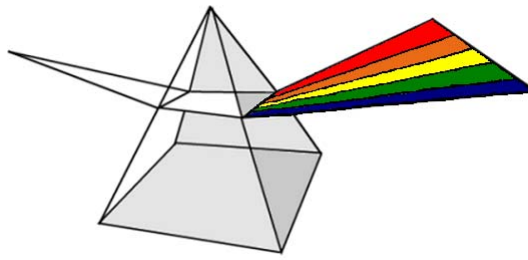
Your blood vitamin B2 measured 12.0 ug/L. The normal range is 2.8 to 20.0 ug/L. The optimal range is 15.7 to 24.3 ug/L. The B vitamins cannot be made by the body and are water-soluble substance. They are not stored to any large extent by the body, with folic acid and B12 being the exceptions. Since B vitamins are not made by the body, they must be obtained through the diet or as supplements. Deficiencies are associated with skin problems especially around the nose, mouth, and ears. In addition redness, burning and excessive tearing of the eyes, light sensitivity, anemia, personality changes and cataracts may occur. The toxicity of B2 is very low. Foods high in this vitamin are liver, meat, fish, poultry, dairy products and whole grains.

Vit. B3-Niacin



Your blood vitamin B3 measured 2.9 ug/mL. The normal range is 1.2 to 2.9 ug/mL. The optimal range is 2.5 to 3.3 ug/mL. There is very little toxicity associated with niacin. A deficiency of niacin may affect skin as well as energy production. The skin may become inflamed and discolored. A severe deficiency of niacin may result in pellagra (dermatitis, diarrhea and dementia). Foods high in niacin are poultry, meat, fish, peanuts and fortified grains.

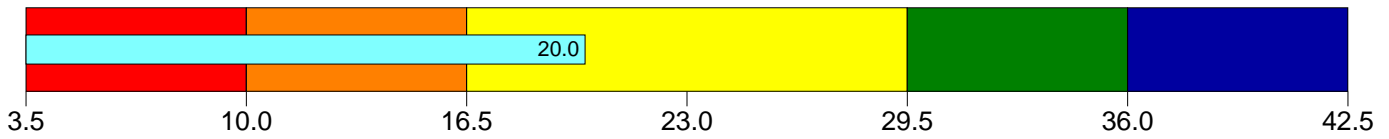
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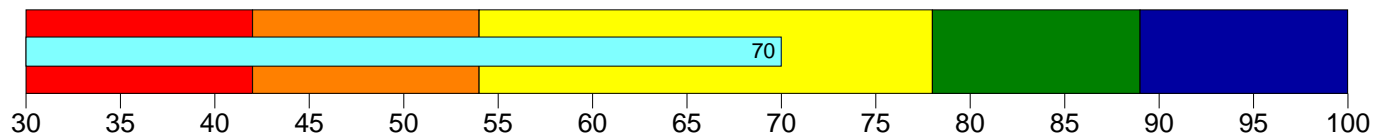
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Vit. B5-Pantothenic Acid

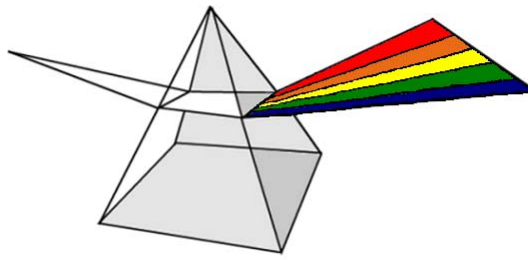


Your blood vitamin B5 measured 20.0 mg/dL. While normal range is 10.0 to 36.0 mg/dL, the optimal range is 29.5 - 42.5. Vitamin B5 is a water-soluble vitamin also known as pantothenic acid. It is involved in a number of metabolic functions in the body and is an essential part of coenzyme A, a catalyst in the metabolism of fats, carbohydrates and protein. This vitamin is necessary for the production of cholesterol, steroids, fatty acids and aids in the utilization of vitamin B2 (riboflavin). It helps maintain precise communication between the central nervous system and the brain. It is important in stress management, cardiac stability, healthy joints, supporting the immune system, energy production and in the maintenance of healthy skin, hair, eyes and muscles. Foods high in pantothenic acid are liver and organ meats, whole grains, brewer's yeast, legumes, fish and poultry. About 33% to 50% of vitamin B5 is lost during cooking.

Vit. B6-Pyridoxine

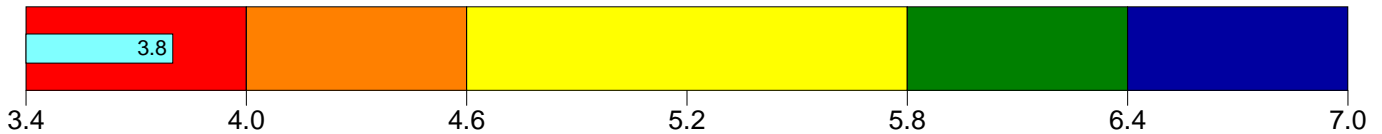


Your blood vitamin B6 measured 70 percent saturation. While the normal range is 42 percent to 89 percent saturation, the optimal level of vitamin B6 is 77 percent to 100 percent saturation. Vitamin B6 is water-soluble and helps convert stored blood sugar into glucose, the brains only fuel. People in midlife and older need about 20 percent more B6 than younger people for optimal cognitive function. They usually do not get this amount because the metabolism of B6 declines after age 40. Most Americans ingest only half of the RDA for B6. B6 also helps protect blood vessels, providing significant protection against heart attacks. Vitamin B6 also helps to improve memory due to its beneficial effect upon the circulatory system.



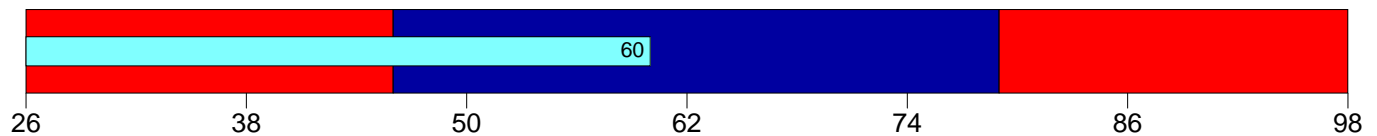
MINERALS

Magnesium, RBC



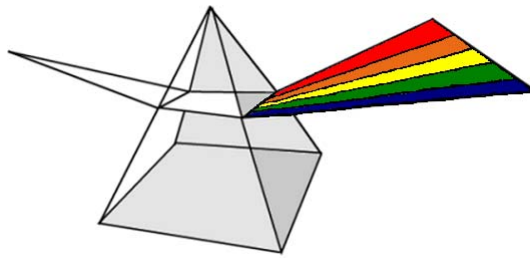
Your red blood cell magnesium measured 3.8 mg/dL. While the normal range is 4.0 to 6.4 mg/dL, the optimal range of magnesium to aid in protective antioxidant action is 5.8 to 7.0 mg/dL. Magnesium is involved in over 300 enzyme reactions some of which are very important to antioxidant function. Magnesium is called the "health mineral" because it is the second most plentiful intracellular mineral. It is essential for proper functioning in cells throughout the body. However, 74 percent of Americans don't meet the RDA of magnesium. Magnesium is especially key to relaxation of smooth and skeletal muscle. "If it spasms, try magnesium." Magnesium deficiencies are very common and may contribute to high blood pressure, heart arrhythmias, muscle cramps and tightness, fluid retention, bronchial spasms, high cholesterol, restless leg syndrome, and chronic fatigue syndrome. Magnesium is present in all whole foods. Best sources are legumes, nuts, whole grains, and greens.

Copper, RBC



Your red blood cell copper measured 60 ug/dL. The normal range is 46 to 79 ug/dL, which is also the optimal range. Although copper is commonly associated with iron in red blood cell formation, this trace mineral is also important in collagen and elastin formation, which helps make strong bones. Deficiency of copper may lead to fragile bones as well as anemia and fatigue. Supplementing with copper should be balanced with intakes of zinc and iron.

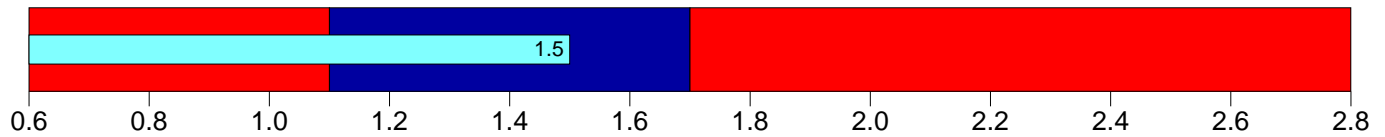
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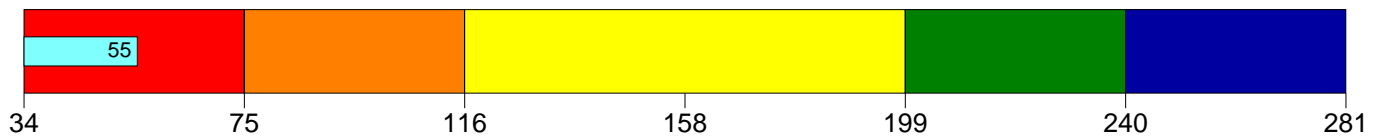
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Manganese, RBC



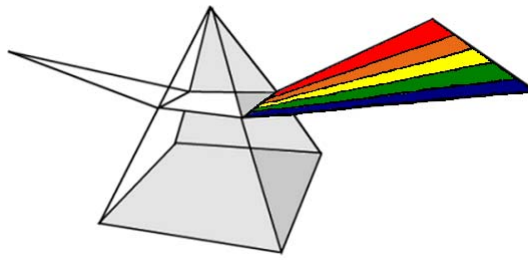
Your red blood cell manganese measured 1.5 ug/dL. The normal range is 1.1 to 1.7 ug/dL, which is also the optimal range. Manganese is essential for skeletal and connective tissue synthesis. High concentrations of manganese are found in the bone. Deficiency of manganese may result in loss of muscle tone.

Selenium, RBC



Your red blood cell selenium measured 55 ug/L. While the normal range is 75 to 240 ug/L, the level for optimal antioxidant effect from selenium should be 199 to 281 ug/L. Selenium is one of the few trace minerals that acts as a true antioxidant compound. It is best absorbed into the body in protein bound forms. Therefore, the best sources are meats, fish, seafood, grains, noodles, eggs, rice, cottage or cheddar cheese and brazil nuts (brazil nuts have the highest Se content compared to other foods). Vegetables are a poor resource for selenium. Selenium forms part of a very important antioxidant enzyme, glutathione peroxidase. High levels of this enzyme in cells protect them against excess free radical release. Selenium has also been found to stimulate the immune system, protect the heart, reduce prostate, lung, colorectal and breast cancer, lower miscarriage rates, and increase chances of conception.

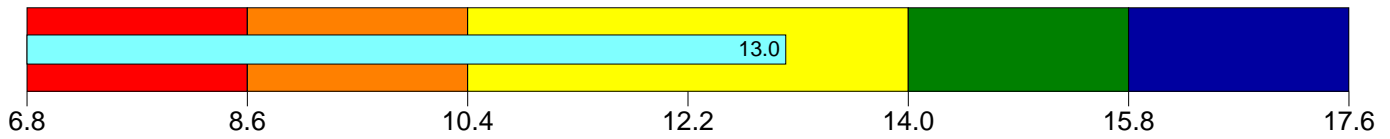
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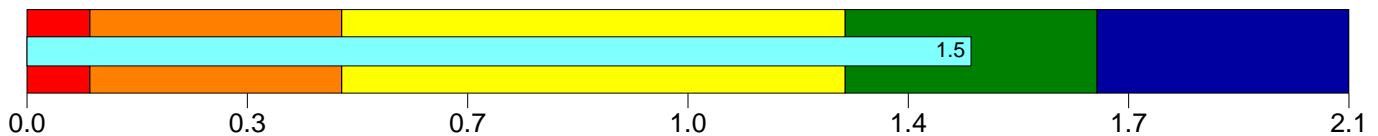
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Zinc, RBC



Your red blood cell zinc measured 13.0 ug/mL. While the normal value is 8.6 to 15.8 ug/mL, the most optimal level of zinc for greatest antioxidant effect is 14.0 to 17.6 ug/mL. Zinc is a very important trace mineral that functions in over 100 different enzyme systems in the brain alone. It is a co-factor in biochemical reactions and is necessary for the synthesis of DNA and RNA. Some symptoms that manifest with zinc deficiencies include adult acne, body odor, foot odor, stretch marks, canker sores, and delayed wound healing. Zinc protects the cellular membrane and is important in cellular growth. It commonly affects the hair, skin and gastrointestinal system. Zinc is most abundant in fresh oysters (but be careful of parasites!). Other sources of zinc include meats, nuts, seafood, whole grains, and egg yolk.

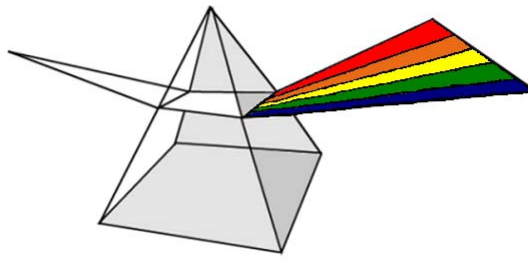
Chromium, Serum



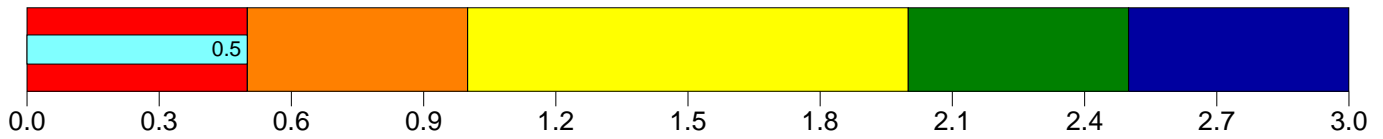
Your serum chromium level measured 1.5 ug/L. While the normal range is 0.1-1.7 ug/L the optimal level for glucose regulation lies between 1.3-2.1 ug/L. Values above 2.1 ug/L may be necessary to achieve the desired goal and should always be discussed with your health care practitioner.

In order for the body to use blood sugar for energy, the sugar must be transported into the cells where the energy conversion takes place. The transporter is insulin, which must have chromium present as a cofactor. If chromium is deficient, the body may be more prone to developing diabetes due to the buildup of glucose in the blood because not enough is being transported into the cells. Chromium deficiency also causes elevations in the harmful types of cholesterol as well as decreases in HDL, the good cholesterol. In 2 studies, the coronary arteries were found to be free of plaque when chromium levels were above 6 ug/L.

One of the best sources of biologically active chromium is yeast (whole grain bread). Other than yeast, few foods provide much chromium. Clams, meats, corn oil, cheese and grains are good sources of chromium.



Boron, Urine

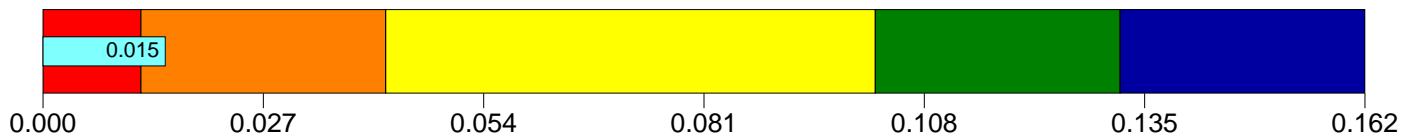


Your boron level measured 0.5 ug/mL. While the normal level is 0.5 - 2.5 ug/mL, optimal levels should be above 2.0 ug/mL. Boron plays an important role in arthritis. Boron helps calcium, magnesium and phosphorus to enter bone tissue and promotes the retention of these minerals by the bone. One study demonstrated that 3 mg/day of boron decreased the excretion of calcium into the urine by 44%. Evidence suggests that boron promotes the synthesis of estrogens, testosterone, vitamin D and DHEA, all of which serve a function relating to optimal bone health.

In human deficiency studies, supplementing with boron improved mineral metabolism, mental alertness, memory and blood hemoglobin. Deficiencies have also been implicated in ADD.

Boron is found in apples, pears, grapes, tomatoes, legumes, nuts and wine.

Strontium, Urine

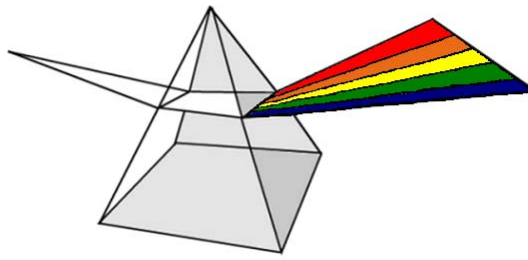


Your strontium level measured 0.015 ug/mL. The normal range is 0.012 - 0.132 ug/mL. Optimal levels should be above 0.102 ug/mL. Strontium plays an important role in supporting new bone formation as well as preventing excessive resorption (teardown) of existing bone.

The bones and teeth contain 99% of the body's strontium. In one study bone biopsies revealed an amazing 172% increase in new bone formation after 6 months of strontium supplementation. Large clinical trials in women with osteoporosis have confirmed that strontium supplements decrease bone resorption and stimulate bone-building osteoblast activity. Two large scale, double blind, placebo controlled trials showed that strontium, when combined with vitamin D and calcium, dramatically built bone mass, and decreased the risk of bone fractures. Magnesium deficiency decreases the body's ability to absorb strontium and calcium.

Strontium can be found in many high calcium foods such as milk and milk products. Brazil nuts are an especially rich source of strontium.

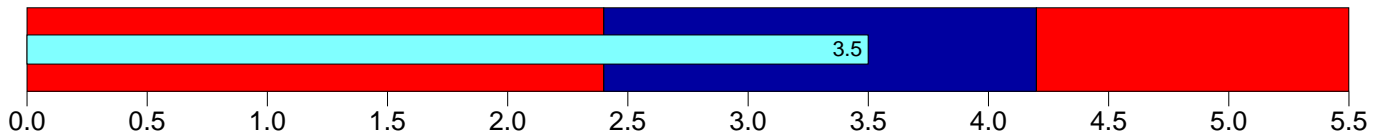
Check Your Health



Protective Medicine for Your Optimal Health

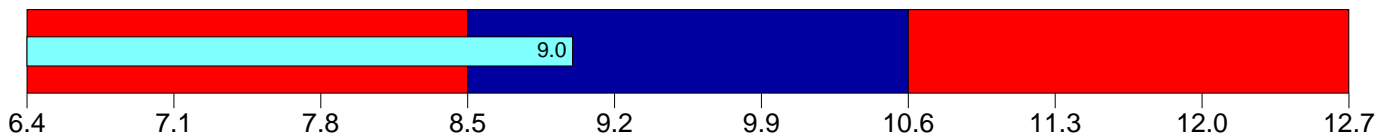
Results For JOHN L DOE
Specimen obtained 10/01/2009

Phosphorus, Serum

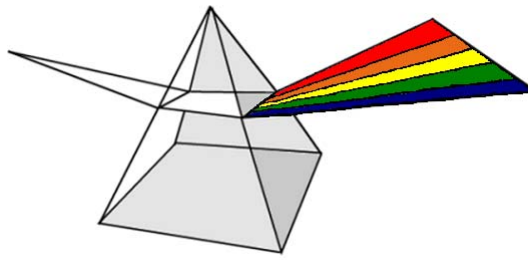


Your serum phosphorus measured 3.5 mg/dL. The normal range is 2.4 to 4.2 mg/dL. This is also the optimal range. Along with calcium, phosphorus is a major structural mineral of the bones and teeth. Phosphorus is also involved in energy production in the body in the form of adenosine triphosphate (ATP). A deficiency of phosphorus will result in bone demineralization and fatigue.

Calcium, Serum

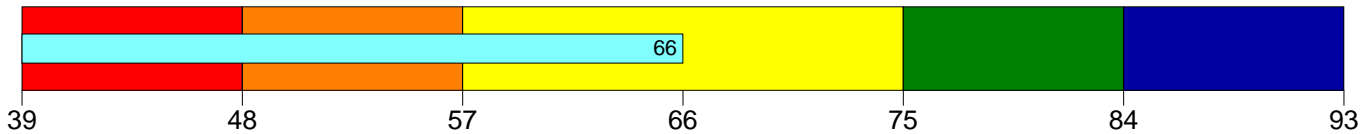


Your serum calcium measured 9.0 mg/dL. The normal range is 8.5 to 10.6 mg/dL, which is also the optimal range. Calcium is the most prevalent mineral in the body. It is one of the main structural minerals in bones and teeth. If there is a deficiency of calcium, weak teeth and bones (osteoporosis) may develop. Calcium is also necessary for growth, blood clotting, muscle contraction, nerve transmission and membrane transport. Calcium is controlled by the parathyroid glands and Vitamin D. Prolonged, elevated calcium may predispose one to kidney stones. There may be a higher need for calcium in cases of stress pregnancy, smoking, sedentary life style, high fat intake and alcohol intake.



AMINO ACIDS

Glutamine

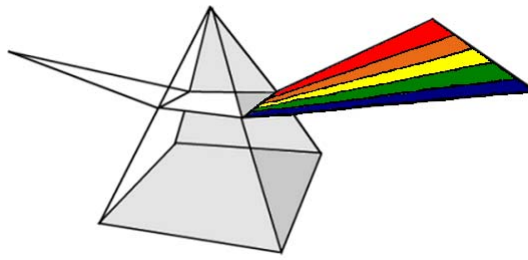


Your plasma glutamine level measured 66 umol/dL. While the normal range is 48 to 84 umol/dL, the optimal level of plasma glutamine is 75 to 93 umol/dL. Glutamine serves as the major nutritional precursor of GABA (gamma-aminobutyric acid), which is the calming neurotransmitter. Glutamine is also involved in the improvement of thought clarity as well as increased alertness. This may be due to its ability to produce glutamic acid, which neutralizes metabolic waste in the brain.

Taurine



Your plasma taurine level measured 6.7 umol/dL. The normal range is 2.8 to 6.8 umol/dL. The optimal level is 4.8 to 6.8 umol/dL. Taurine is a sulfur containing amino acid and is a major component of bile acids and glutathione. It is the most prevalent amino acid in the brain, heart and retina. Low levels of taurine may lead to depression, epileptic seizures, chemical sensitivity and more. Most meats are high in amino acids and egg yolks are very high in taurine.



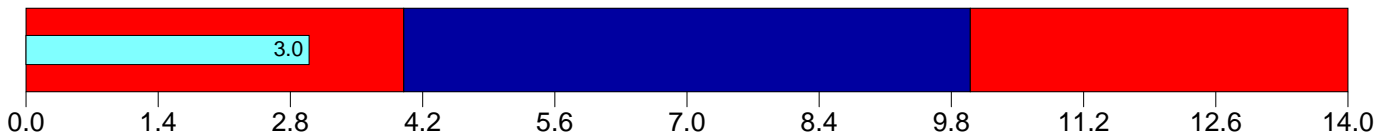
AMINO ACIDS-ESSENTIAL

Histidine



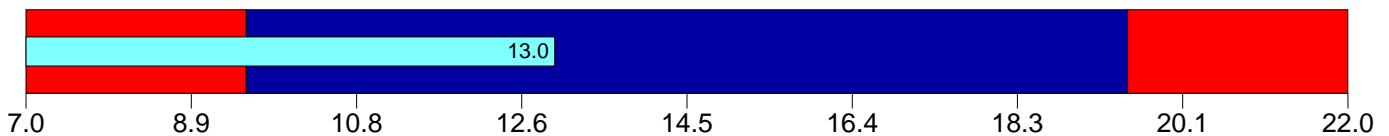
Your plasma histidine level measured 5.0 umol/dL. The acceptable range is 2.4 to 10.0 umol/dL, which is also the optimal range. High levels of histidine are found in the hemoglobin of red blood cells. Histidine has been used in treatment of rheumatoid arthritis, allergic diseases, ulcers, and anemia. Low levels or a deficiency of histidine may be a cause of poor hearing.

Isoleucine



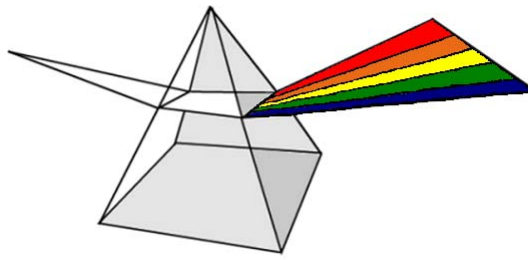
Your plasma isoleucine level measured 3.0 umol/dL. An acceptable level is 4.0 to 10.0 umol/dL, which is also the optimal range. Isoleucine is an ESSENTIAL amino acid and cannot be made by the body, it must be obtained through the diet. It is one of the branched-chained amino acids with similarities to valine and leucine. Isoleucine is a common component of proteins, peptides and hormones. As with other branched-chained amino acids, isoleucine provides components for the manufacture of other ESSENTIAL biochemicals in the body, some of which are utilized for the production of energy, stimulants to the upper brain and helps you be more alert.

Leucine



Your plasma leucine measured 13.0 umol/dL. The acceptable range is 9.5 to 19.5 umol/dL, which is also the optimal range. Leucine is an ESSENTIAL amino acid, which means it cannot be made by the body and must be obtained through the diet. It is one of the branched-chain amino acids with similarities to valine and isoleucine. Its function is similar to that of isoleucine.

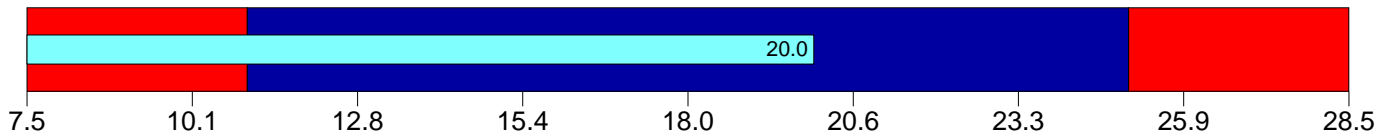
Check Your Health



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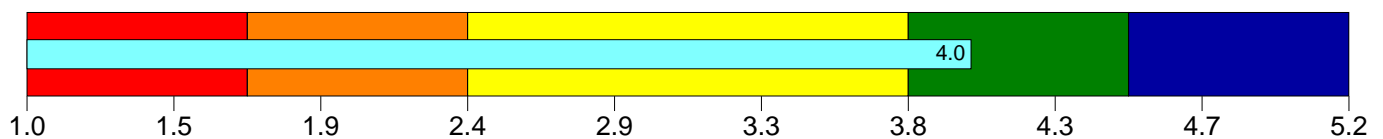
Results For JOHN L DOE
Specimen obtained 10/01/2009

Lysine



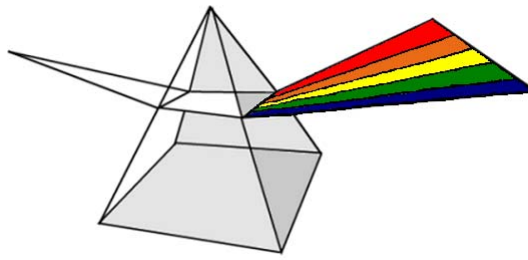
Your plasma lysine level measured 20.0 umol/dL. The acceptable range is 11.0 to 25.0 umol/dL, which is also the optimal range. Lysine is an ESSENTIAL amino acid and cannot be made by the body, it must be obtained through the diet. Lysine assures the adequate absorption of calcium and helps form collagen, which makes up bone, cartilage and connective tissues. It also aids in the production of antibodies, hormones and enzymes. Recent studies have shown that lysine may be effective against herpes by improving the balance of nutrients that reduce viral growth. Low levels may result in tiredness, inability to concentrate, irritability, blood shot eyes, retarded growth, hair loss, anemia and reproductive problems.

Methionine



Your plasma methionine measured 4.0 umol/dL. While the normal range is 1.7 to 4.5 umol/dL, the optimal plasma methionine level is 3.8 to 5.2 umol/dL. Methionine functions similar to glutamine in that it also cleans the brain of metabolic wastes. Methionine acts as a very strong antioxidant that helps prevent the accumulation of heavy metals in the brain, such as cadmium and mercury. Methionine utilization can be enhanced by adding necessary co-factors such as vitamin B6 and magnesium.

Check Your Health



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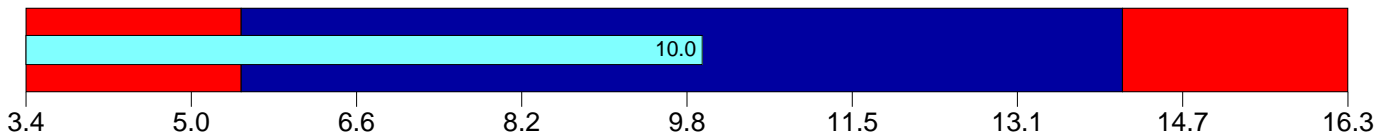
Results For JOHN L DOE
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Phenylalanine



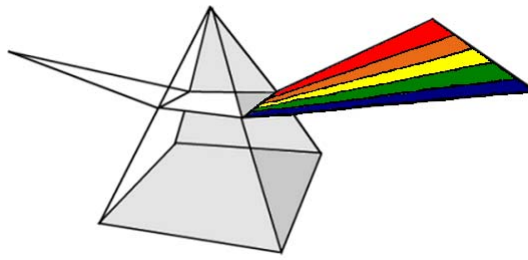
Your plasma phenylalanine measured 8.9 umol/dL. While the normal range is 3.5 to 8.4 umol/dL, the optimal level of plasma phenylalanine is 5.9 to 8.4 umol/dL. Phenylalanine is the major nutritional precursor for norepinephrine and helps to brighten mood, improve memory and stimulate energy. Low levels have also been associated with altered thyroid function, fatigue and autonomic dysfunction. In order to feel energetic and to have good long-term memory, it is very important that you have adequate levels of phenylalanine. Very high levels of phenylalanine are found in the genetic disease phenylketonuria (PKU).

Threonine



Your plasma threonine level measured 10.0 umol/dL. The acceptable range is 5.5 to 14.1 umol/dL, which is also the optimal range. Threonine is an ESSENTIAL amino acid and cannot be made by the body, it must be obtained through the diet. It is an important constituent of collagen, elastin and enamel protein. It also helps prevent fat build-up in the liver and helps the digestive tract function more smoothly. It is the precursor to glycine and serine. Threonine is also one of the five amino acids that link with carbohydrates to form glyco-proteins which are ESSENTIAL for immune function and blood globulin function. Meats, poultry and fish contain relatively high amounts of threonine.

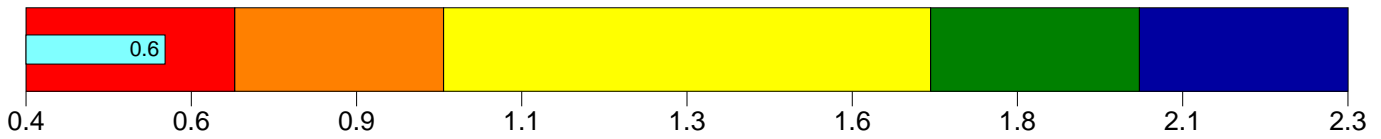
Check Your Health



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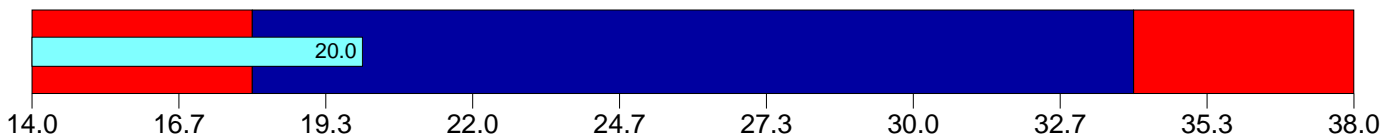
Results For JOHN L DOE
Specimen obtained 10/01/2009

Tryptophan



Your plasma tryptophan level measured 0.6 umol/dL. While the normal range is 0.7 to 2.0 umol/dL, the optimal level is 1.7 to 2.3 umol/dL. Tryptophan is the major nutritional precursor of serotonin, which is the primary "feel good" neurotransmitter. Required nutrients for this process are vitamin B6 and niacin. Low levels are often seen with depression, insomnia, irritability and schizophrenia. These symptoms are often due to decreased levels of serotonin. Tryptophan is found in many foods, especially high carbohydrate foods.

Valine

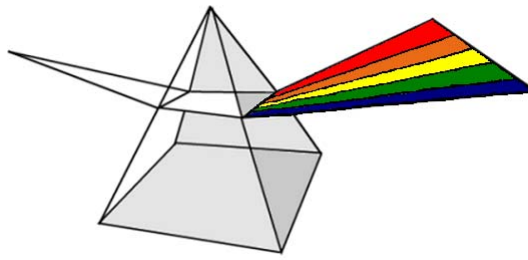


Your plasma valine level measured 20.0 umol/dL. The acceptable range is 18.0 to 34.0 umol/dL. This is also the optimal range. Valine is an ESSENTIAL amino acid and cannot be made by the body, it must be obtained through the diet. Valine is one of the branched-chain amino acids similar to two other ESSENTIAL amino acids leucine and isoleucine. Valine helps promote vigor, muscle coordination and promotes a calming effect on our emotions. It is also needed for the synthesis of proteins and active peptides. It is low in protein malnutrition, gastrointestinal dysfunctions and low zinc levels.

Arginine

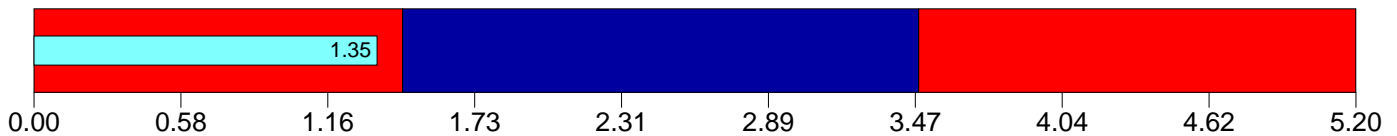


Your plasma arginine level measured 6.0 umol/dL. While the normal range is 2 to 6 umol/dL, the optimal level of plasma arginine is 5.0 to 7.0 umol/dL. Arginine is poorly absorbed and low levels often reflect a diet poor in high-quality protein. Arginine is partly converted in the body to spermine, which is used by the brain to process memories. Low levels of spermine are sometimes a biological indicator of age-associated memory loss. Arginine is also a stimulator of body metabolism, and is used as part of a weight-loss formula.



THYROID TESTING

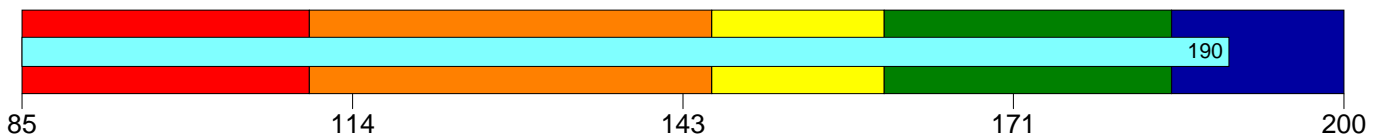
Free T3



Your Free T-3 measured 1.35 pg/mL. The normal level is 1.45 to 3.48 pg/mL. This is the same as the optimal level. Two hormones are produced by the thyroid gland, T4 and T3. T3 is the more active hormone and controls most of the body's metabolism. When the thyroid is under active (less T3-hypothyroidism) the body functions slow down. Skin and hair become dry, fluid accumulates in the body, etc. Pregnant women who have hypothyroidism are four time more likely to have children with low IQ's than normal mothers. In Kansas, as well as most other states, testing of newborns for neonatal hypothyroidism is the law. Hyperthyroidism (high T3) can be just as damaging.

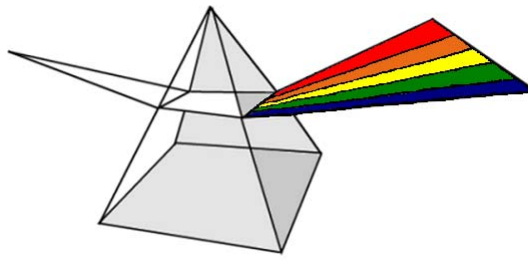
LIPID PROFILE

Cholesterol



Your cholesterol measured 190 mg/dL. The National Cholesterol Education Program (NCEP) states that a cholesterol between 200-239 mg/dL is considered borderline high. The Center For The Improvement of Human Functioning International, Inc. recommends that optimal levels lie between 160-210 mg/dL. Note that optimal levels may vary on an individual basis. Cholesterol is needed to maintain cell membranes, the production of sex hormones, aids in the manufacturing of bile and converts sunshine to Vitamin D. It is also important in the metabolism of Vitamin A, D, E and K. Recent studies have found that cholesterol values <160 mg/dL may put you at risk for depression, anxiety, stroke, malnutrition, hyperthyroidism and liver disease.

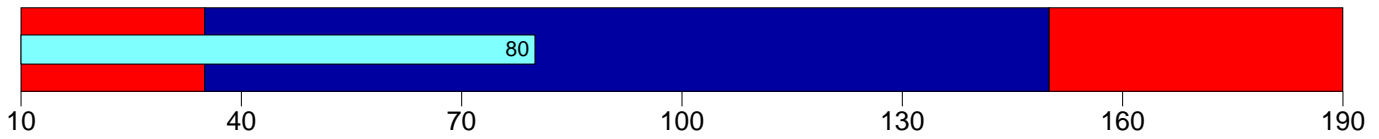
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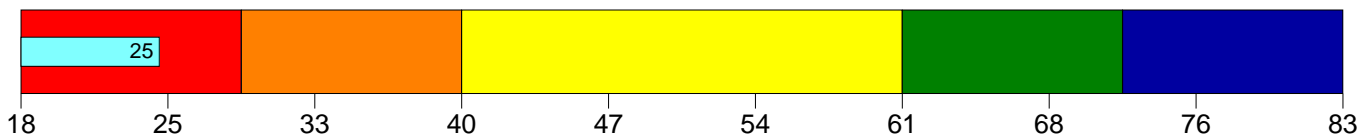
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Triglycerides



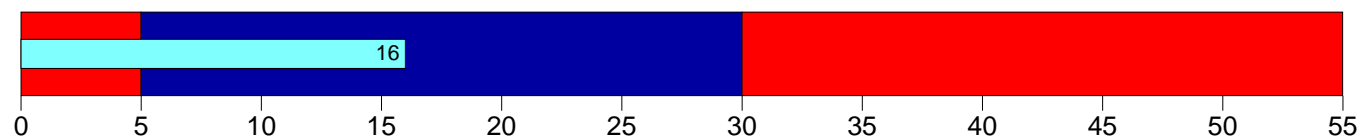
Your triglycerides measured 80 mg/dL. The optimal triglyceride level is 35 to 150 mg/dL. Triglycerides are a form of fat containing three fatty acids. They are a form of storage for excess dietary fat and carbohydrates and serve as an energy source. Although decreased levels are rare, starvation and malnutrition can cause triglyceride levels to drop. Increased levels are seen following alcohol consumption; during non-fasting states, kidney disease, diabetes mellitus, hypothyroidism, genetic disorders and vascular risk.

HDL Cholesterol



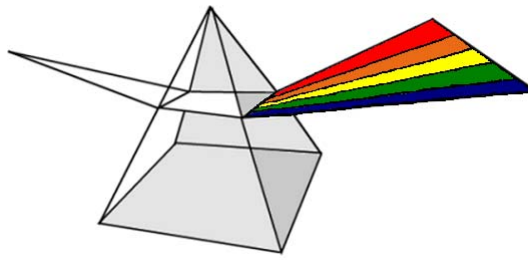
Your high density lipoprotein measured 25 mg/dL. This is the "good cholesterol" that transports LDL away from the artery walls. While the normal range is 29 mg/dL to 72 mg/dL, the recommended level for HDL Cholesterol is greater than 40 mg/dL for men and greater than 50 mg/dL for women. When assessing HDL status, it is necessary to monitor the cholesterol/HDL ratio. It is more important to have a low ratio than it is to have a high level of HDL.

VLDL



Your very low density lipoprotein (VLDL) measured 16 mg/dL. The optimal VLDL level is 5 to 30 mg/dL. VLDL carries triglycerides to the liver and other parts of the body. Malnutrition and malabsorption can cause reduced levels of VLDL. Increased levels can occur with alcohol use, obesity, genetic disorders, and high fat diets.

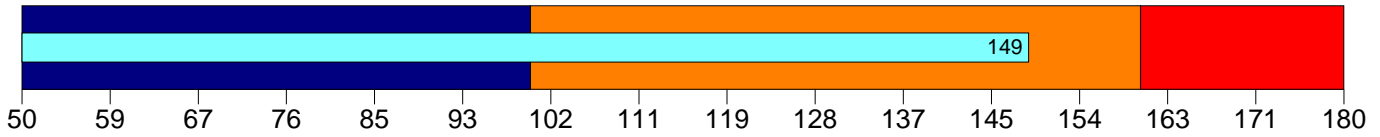
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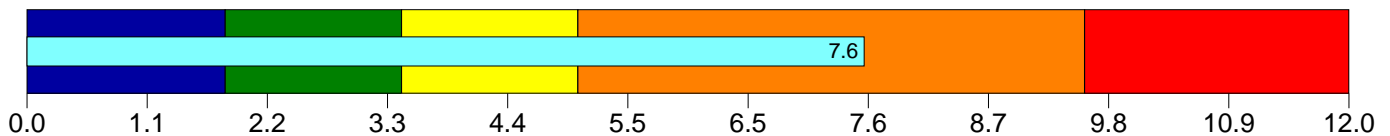
LDL



Your low density lipoprotein measured 149 mg/dL. The normal level is 50 to 100 mg/dL. LDL transports cholesterol and other lipids throughout the body. However, it can carry cholesterol to artery walls leading to atherosclerosis. It is the "bad cholesterol" especially when in excess. Starvation, malnutrition, certain medications and malabsorption can lead to low LDL levels. Genetic factors, diets high in fat and cholesterol, diabetes and kidney disease can lead to increased levels. High LDL levels are responsible for most atherosclerosis.

Risk Classification	Adult levels
Desirable	<100 mg/dL
Borderline Risk	100-159 mg/dL
High Risk	>160 mg/dL

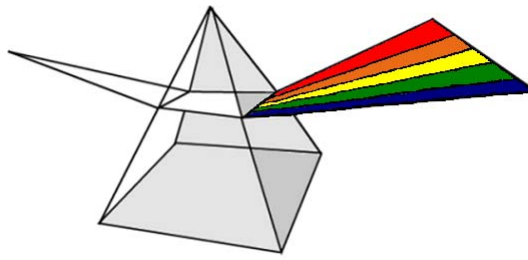
Cholesterol/HDL Ratio



Your cholesterol/HDL ratio is 7.6. The cholesterol/HDL ratio is a calculation of your risk for heart disease. It is optimal to have a low ratio. A low ratio indicates that total cholesterol is comprised mostly of HDL particles. This ratio is considered the most important indicator for atherosclerosis.

Risk Classification	Male	Female
1/2 Average Risk	< 3.4	< 3.3
Average Risk	3.4 - 5.0	3.3 - 4.4
2 Times Average Risk	5.1 - 9.6	4.5 - 7.1
3 Times Average Risk	9.7 - 23.0	7.2 - 11.0

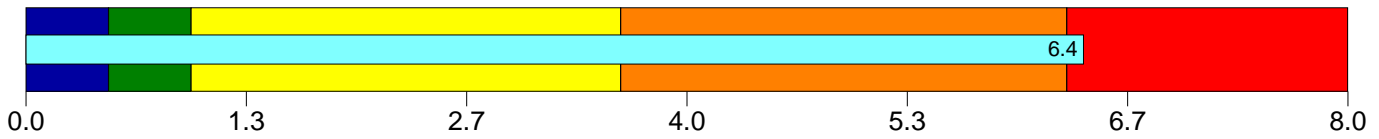
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LDL/HDL Ratio



Your LDL/HDL ratio is 6.4. The LDL/HDL ratio is also a heart disease risk indicator. It is best to have a low ratio as this indicates there is sufficient HDL in relation to LDL to aid in prevention of atherosclerosis. Excessively high or low levels can indicate a problem. It is best to maintain these in proper balance to HDL.

Risk Classification	Male	Female
1/2 Average Risk	< 1.0	< 1.5
Average Risk	1.0 - 3.6	1.5 - 3.2
2 Times Average Risk	3.7 - 6.3	3.3 - 5.0
3 Times Average Risk	6.4 - 8.0	5.1 - 6.1

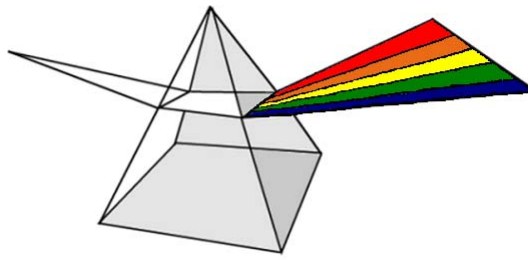
URINE CHEMISTRIES

K/Na Ratio



Your urine potassium/sodium(K/Na) ratio measures 2.00. The average American diet produces a urine K/Na ratio of about 0.40 to 1.00 (urine potassium (K) result divided by urine sodium (Na) result). The purpose of the urine K/Na ratio is to monitor the amount of whole foods in your diet. A ratio of 0.8 or higher is an optimal ratio and suggests that you are getting a reasonable amount of whole foods in your diet. Whole foods means eating fruits, vegetables and whole grains in place of processed foods in your diet. Processed foods usually contain larger amounts of Na and in their manufacture K is stripped away. Some foods that are naturally higher in potassium than sodium are banana (400:1, 400 parts K to 1 part Na), apple (150:1), orange (260:1), date (520:1), strawberries (240:1). On the other hand a piece of commercial apple pie is 0.27:1 and a beef burrito is 0.24 (K=320 mg/Na=1311 mg)! One of the many benefits in a ratio above 0.8 would be the lowering of blood pressure.

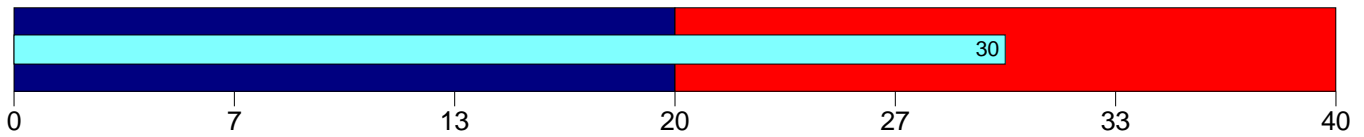
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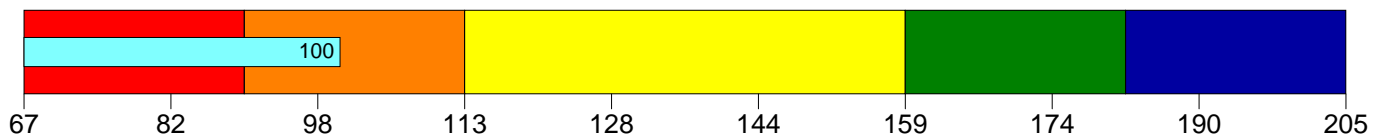
Pyrroles, Urine



Your urine pyrrole measured 30 ug/dL. The normal range is less than 20 ug/dL, which is also the optimal range. Urine pyrrole, also known as the mauve factor, pyrroluria and kryptopyrrole, was first described in the 1950s. In the 1960s, urine pyrroles were found to be elevated in over 20% of patients with various conditions associated with anxiety, severe physical or psychological stress, schizophrenia and autistic children. In the 1970s, it was reported that consistently high pyrroles will bind with vitamin B6 and zinc in the blood. Increasing the intake of vitamin B6 and zinc has helped many individuals with these problems.

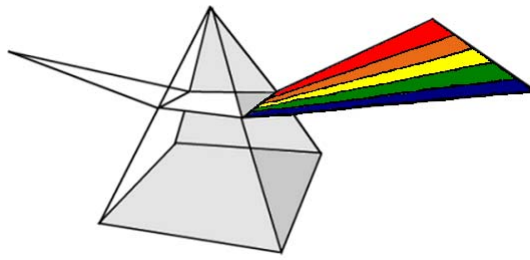
FATTY ACIDS-OMEGA 6-RBC

Linoleic



Your red blood cell linoleic fatty acid (LA) level measured 100 uM/L. The normal range is 90 - 182 uM/L. A result greater than 159 uM/L is optimal. Since your body cannot make LA, it must be obtained through the diet. The other members of the Omega-6 fatty acids are derived from linoleic acid. This group of fatty acids are polyunsaturated and have the first double bond at the 6th carbon from the omega end of the chain, hence omega-6. Through a series of processes, linoleic acid will make two hormone like substances called prostaglandins (PG), one is PGE1, which is helpful to the body. The other, PGE2, is harmful to the body. Deficiency symptoms of LA include skin problems, hair loss, liver problems, behavioral problems, susceptibility to infections, heart and circulatory problems, arthritis, sterility in males, miscarriage in females, growth retardation, etc. LA is found in seed oils including sunflower, safflower, corn, soy, and evening primrose oil. Peanut oil has some LA as does liver.

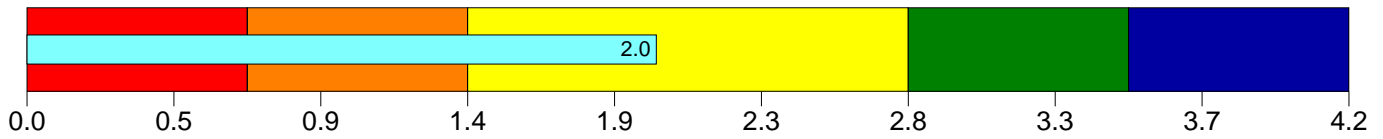
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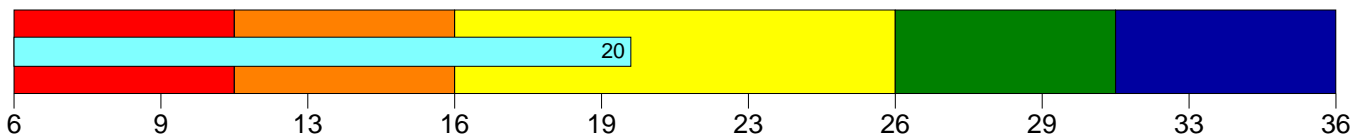
Results For JOHN L DOE
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Gamma Linolenic (GLA)

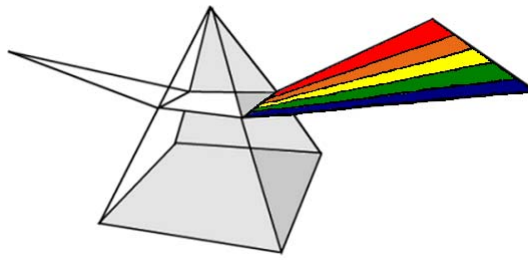


Your red blood cell gamma linolenic (GLA) fatty acid level measured 2.0 uM/L. The normal range is 0.7 - 3.5 uM/L. Values greater than 2.8 uM/L are considered optimal. GLA is derived from linoleic acid and the result must be compared with all other fatty acids and brought back into balance. GLA is an omega-6 fatty acid that has three double bonds in the molecule and is a polyunsaturated fat. Deficiency symptoms are similar to that of linoleic acid, especially arthritis and menstrual syndrome. GLA is found in hemp, borage, evening primrose oils, and black currant seeds.

Dihomogammalinolenic

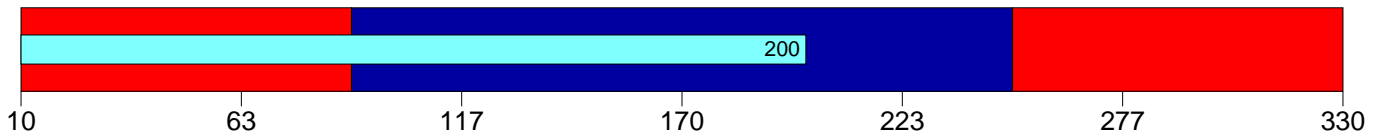


Your red blood cell dihomogammalinolenic fatty acid (DGLA) level measured 20 uM/L. The normal level is 11 - 31 uM/L. A result greater than 26 uM/L is considered optimal. DGLA is an omega-6 fatty acid and is a long chained molecule (20 carbons) with three double bonds. This makes it a polyunsaturated fatty acid. DGLA is made from GLA. Deficiency symptoms are as for linoleic acid. The helpful prostaglandin PGE1 series is made from DGLA. PGE1 helps prevent heart attacks and strokes by reducing blood clots in the arteries; it helps the kidneys remove sodium and water from the body; relaxes blood vessels improving circulation and lowering blood pressure; slows cholesterol production; helps reduce inflammation from arthritis; and improves diabetes by making insulin work more efficiently. PGE1 also improves nerve function. DGLA is found in mother's milk and such meats as spleen, kidneys, and adrenal glands.



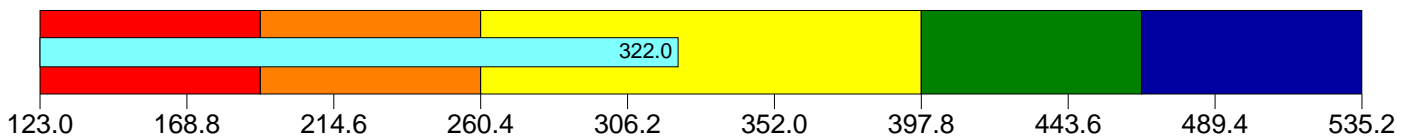
Results For JOHN L DOE
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Arachidonic

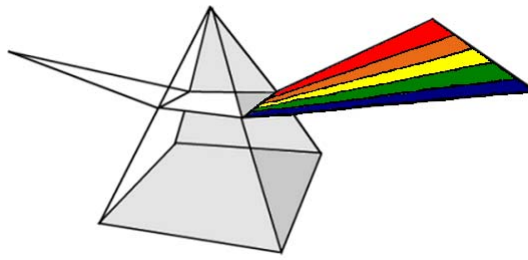


Your red blood cell arachidonic (AA) fatty acid level measured 200 $\mu\text{M/L}$. The normal range is 90 - 250 $\mu\text{M/L}$ which is also the optimal level. Levels that are lower or higher indicate that AA is out of balance. AA is an omega-6 fatty acid, having 20 carbons and four double bonds, which make it a polyunsaturated fatty acid. AA is made from DGLA. PGE2 series, which are harmful to the body, are made from AA. PGE2 causes clots to form and the kidneys to retain salt and water leading to high blood pressure. AA is found in animal foods (meats, eggs, and dairy foods). PGE1 prevent AA from being released from cell membranes. It is very important that the omega-6 fatty acids remain in balance.

Total Omega-6

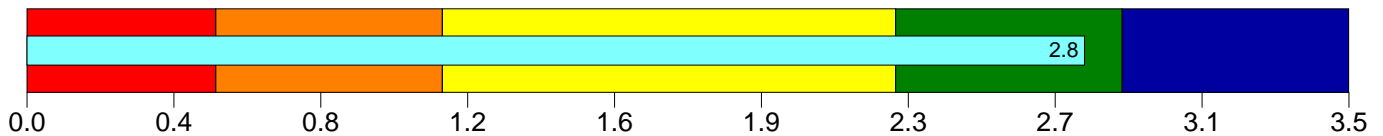


Your total red blood cell omega-6 fatty acids (linoleic, gamma linolenic, dihomogamma-linolenic and arachidonic) are 322.0 $\mu\text{M/L}$. The normal range is 191.7 - 466.5 $\mu\text{M/L}$. A value greater than 397.8 $\mu\text{M/L}$ is considered optimal. Foods high in omega-6 are borage oil, oils of safflower, sesame, sunflower, evening primrose, black currant seed, and grapes. Vitamins A, C, E, B3, B6, magnesium and zinc enhance conversion of linoleic acid (an essential fatty acid) into other omega-6 fatty acids. Excess cholesterol, trans-fatty acids, saturated fats, aging, diabetes, alcohol, zinc deficiency and high sugar consumption inhibit this process.



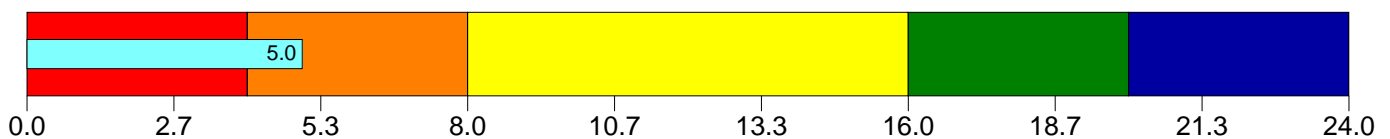
FATTY ACIDS-OMEGA 3-RBC

Alpha Linolenic



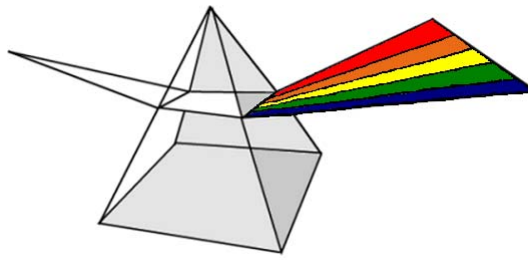
Your red blood cell alpha-linolenic (ALA) fatty acid level measured 2.8 uM/L. The normal range is 0.5 - 2.9 uM/L. A value greater than 2.3 uM/L is considered optimal. Since your body can not make ALA, it must be obtained through the diet. The other members of the omega-3 fatty acids are made from ALA. This group of fatty acids are polyunsaturated and have the first double bond at the carbon 3 from the omega end, hence the name omega-3 fatty acids. Through a series of processes, ALA makes a prostaglandin (PGE3) series. Deficiency symptoms of ALA include growth retardation, weakness, impaired vision, learning disability, tingling sensations in the arms and legs, behavioral changes, high triglycerides, high blood pressure edema, dry skin, immune dysfunction, etc. ALA is found in flax seed and hemp seed and their oils.

Eicosapentaenoic (EPA)



Your red blood cell eicosapentaenoic fatty acid (EPA) level measured 5.0 uM/L. The normal range is 4.0 - 20.0 uM/L. Values greater than 16.0 uM/L are considered optimal. EPA can be obtained through the diet or made from the essential fatty acid alpha-linolenic acid. EPA is an omega-3 fatty acid and has 20 carbons and five double bonds, which makes it a highly polyunsaturated fatty acid. EPA is found in large quantities in cold-water fish and marine animals. The oil of the Chinese water snake is the richest source of EPA. EPA is the parent source from which the body makes series-3 prostaglandins. These are the good prostaglandins that decrease inflammation, water retention, and blood pressure by inhibiting production of pro-inflammatory, water-retaining, artery constricting PGE2 prostaglandins.

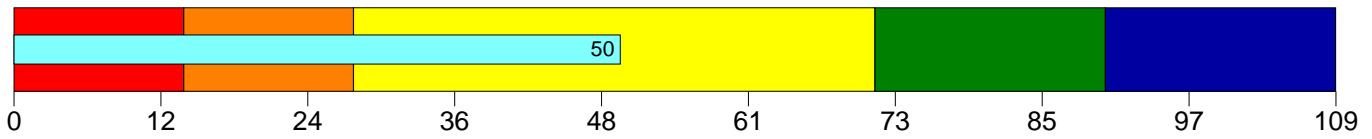
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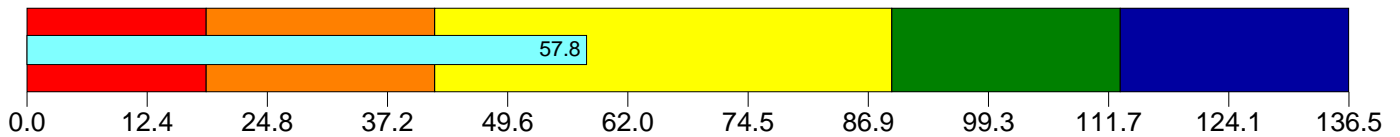
Results For JOHN L DOE
Specimen obtained 10/01/2009

Docosahexaenoic (DHA)



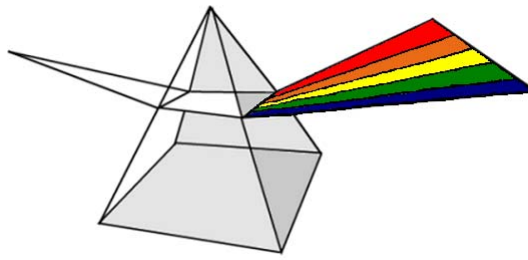
Your red blood cell docosahexaenoic fatty acid (DHA) level measured 50 uM/L. The normal range is 14 - 90 uM/L. Achieving a value greater than 71 uM/L is optimal. It is the main structural fatty acid in the gray matter of the brain. Sixty per cent of the brain is structural fat & DHA is necessary for signal transmissions in the brain & nervous system. DHA can be obtained through diet or made from eicosapentaenoic acid or LNA. DHA is an omega-3 fatty acid, having 22 carbons and six double bonds in its chain. It is found in large concentrations in cold water fish, marine animals, retina, brain, adrenals and testes.

Total Omega-3



Your total red blood cell omega-3 fatty acids measured 57.8 uM/L. The normal range is 18.5 - 112.9 uM/L. Values greater than 89.3 uM/L are considered optimal. Docosahexaenoic (DHA) and omega-three fatty acids, found in cold water fish (fish oils) and other marine mammals, reduce lipids (VLDL and triglycerides), apolipoprotein A and blood pressure. Omega-3 fatty acid conversion from alpha linolenic acid (an essential fatty acid) is enhanced by the same nutrients as stated for omega-6. Foods high in omega-3 fatty acids are fish oils, flax oil, walnuts, hemp, soybean, and dark-green leafy vegetables. The conversion process is inhibited by the same chemicals as for omega-6, excess cholesterol, etc. These chemicals tend to inhibit an enzyme, delta-6 desaturase, which is necessary for placing double bonds into various fatty acids.

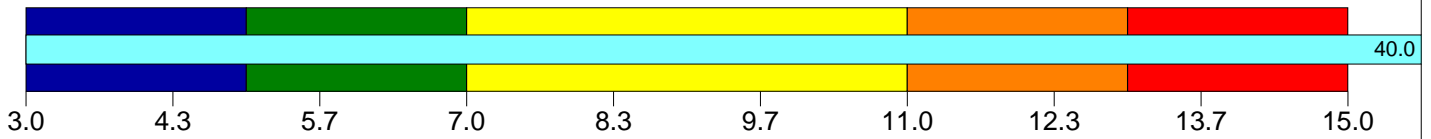
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Results For JOHN L DOE
Specimen obtained 10/01/2009

Arachidonic/EPA

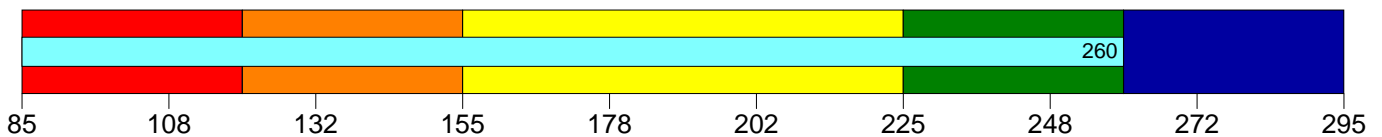


Your arachidonic acid (AA) to eicosapentaenoic acid (EPA) ratio is 40.0. The normal range is a ratio between 5.0 and 13.0. The optimal range is a ratio value less than 7.

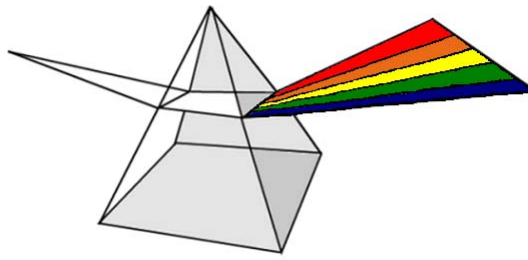
An excess of AA in the diet, or a deficiency of EPA creates an unfavorable ratio that promotes excessive inflammation. You can reduce your ratio through diet changes such as consuming more cold water fish as well as the use of pharmaceutical-grade fish oil capsules.

FATTY ACID-MONOUNSAT.-RBC

Oleic

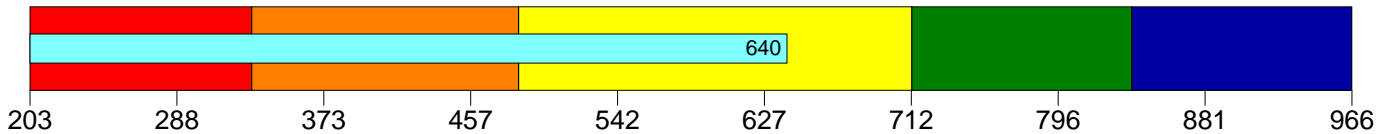


Your red blood cell oleic fatty acid (OA) level measured 260 uM/L. The normal range is 120 - 260 uM/L. A value greater than 225 uM/L is optimal. Oleic acid is an omega-9 fatty acid with a single double bond at carbon number 9. OA has 18 carbons in its chain and is classified as a monounsaturated fatty acid. It is found in olive, almond, cashew, peanut, canola, pecan, macadamia and other oils. OA is not an essential fatty acid and can be produced in your body. OA is found in the membrane of cell structures and in fat deposits of most animals. OA's fluidity helps keep your arteries supple and is found in the oils produced by our skin glands.



FATTY ACID-Unsaturat.-RBC

Total Unsaturated

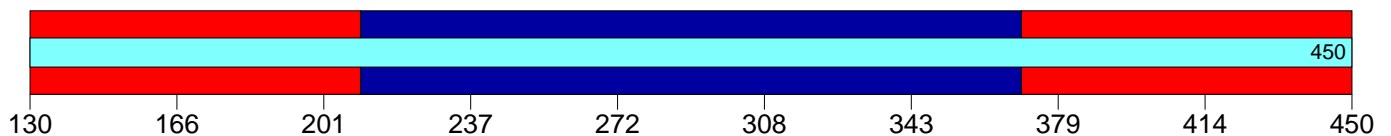


Your total unsaturated fatty acids measured 640 uM/L. The normal range is 330 uM/L to 839 uM/L. Values greater than 712 uM/L are considered optimal.

Unsaturated fat is the type of fat found predominately in plants and nuts. This includes polyunsaturated fats and monounsaturated fats. It does not raise "bad" LDL cholesterol levels, but may raise "good" HDL cholesterol levels.

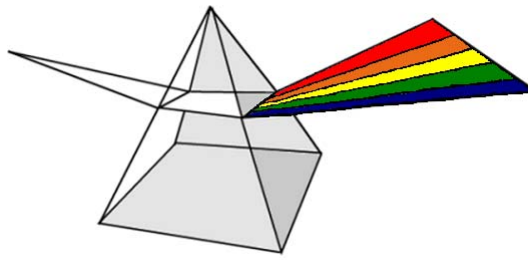
FATTY ACID-SATURATED-RBC

Palmitic



Your red blood cell palmitic (PA) fatty acid level measured 450 uM/L. The normal range is 210 - 370 uM/L which is also the optimal range. Palmitic acid is a 16 carbon long fatty acid that has no double bonds, thus it is a saturated fatty acid. Palmitic acid is found in palm oil and other tropical oils such as cocoa, palm kernel and shea nut. Tropical oils are used in non-dairy creamers and have been shown to increase blood cholesterol levels. Saturated fatty acids form part of all membranes, but are mainly used as fuel. About 40 to 45 percent of the body's energy comes from fats.

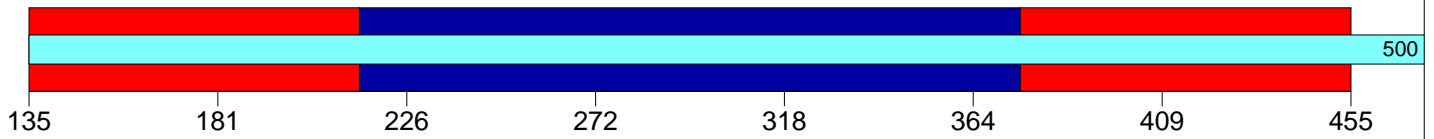
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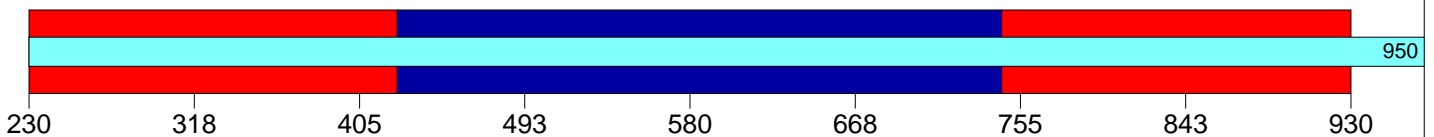
Results For JOHN L DOE
Specimen obtained 10/01/2009

Stearic



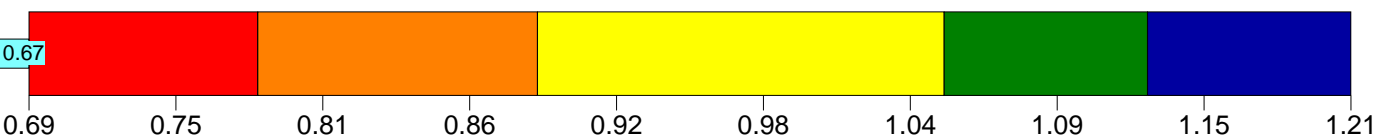
Your red blood cell stearic (SA) fatty acid level measured 500 uM/L. The normal range is 215 - 375 uM/L which is also the optimal range. Stearic acid is an 18 carbon fatty acid that has no double bonds, thus it is a saturated fatty acid. SA is abundant in hard fats and is solid at room temperature. SA can be changed by the body into oleic acid, a monounsaturated fatty acid that is liquid at body and room temperature. Saturated fatty acids may also block the enzyme delta-6-saturase that converts LA to GLA.

Total Saturated

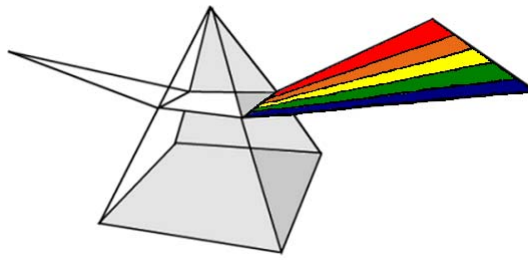


Your total saturated fatty acids are 950 uM/L. The normal range is 425 - 745 uM/L which is also the optimal range. The two saturated fatty acids measured are palmitic acid and stearic acid, which are only two of the whole family of saturated fatty acids. Saturated fatty acids have no double bonds, are found in hard fats and tend to increase cholesterol levels.

Unsat. to Saturated Ratio

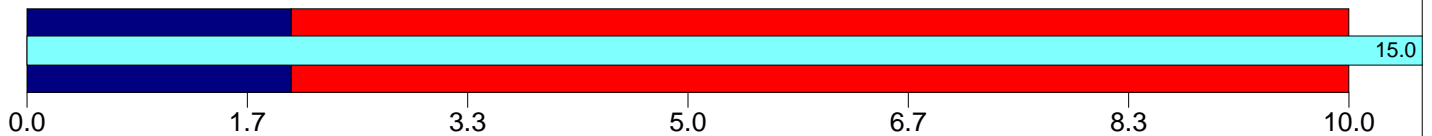


Your unsaturated to saturated fatty acid ratio is 0.67. The normal range is 0.78 - 1.13. A result greater than 1.04 is consider optimal. Too much saturated fatty acids inhibit the conversion of omega-3 and omega-6 fatty acids and contribute to atherosclerosis.



TRANS FATTY ACIDS-RBC

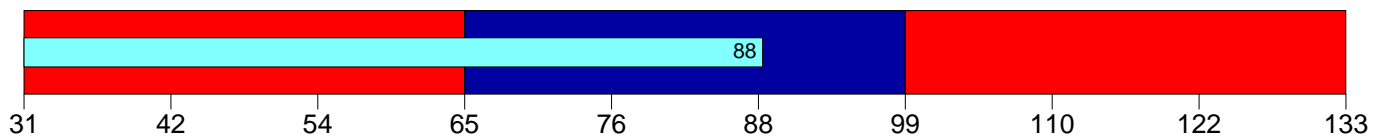
Elaitic (C-18)



Your elaitic trans-fatty acid was 15.0 uM/L. The usual American diet produces a range between 2.0 - 10.0 uM/L. The optimal range is less than 2.0. Transfats are "bad" fats made from partially hydrogenated "good" or cis-fats. Trans-fats are obtained from foods that have been fried or deep-fried at high heat (french-fries). Margarine contains various amounts of trans-fats: The stick type contains 31%, the tube type 17%, and from the over-all diet 17.9%. Vegetable shortenings may contain up to 13.7%. Because of some "fast foods", the U.S. diet may contain up to 12 grams of trans-fats (10% of total fat intake). Trans-fats have an abnormal shape, tend to remain in one spot, increase platelet stickiness, block receptors and are hard to destroy. They increase the risk of atherosclerosis by increasing cholesterol and triglycerides. Trans-fats are thought to be associated with some types of cancer. Read food labels and try to avoid trans-fats.

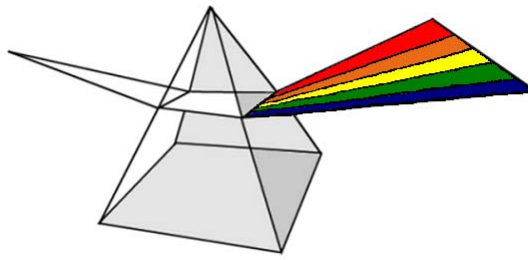
GLUCOSE MONITORING

Glucose, Fasting



Your fasting glucose measured 88 mg/dL. Optimal levels are between 65 and 99 mg/dL. When we eat carbohydrates (sugar and starches), our bodies break these down into glucose. Insulin is required to transport glucose into the cells where it can be used for immediate energy, or it can be converted to glycogen for later use as a source of energy, or it is converted to fat. A low blood glucose is called hypoglycemia and may be associated with symptoms such as shakiness, sweating, and fatigue. A high fasting glucose may indicate a disorder of insulin and/or blood sugar regulation. Further evaluation is generally need to determine whether a person is developing diabetes.

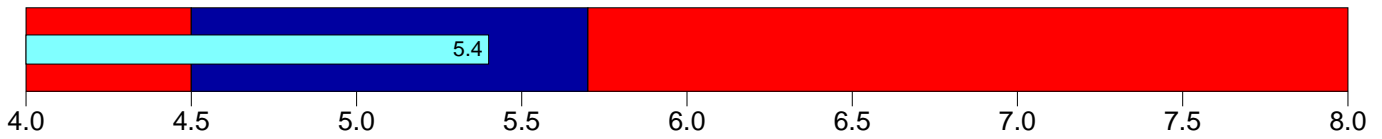
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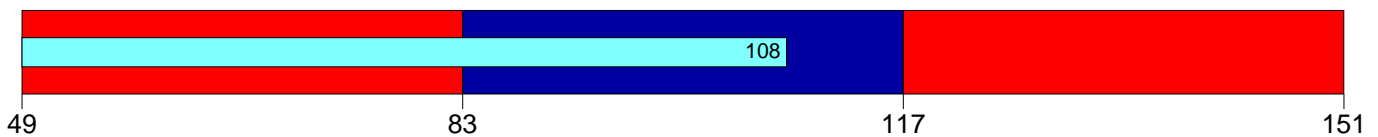
Results For JOHN L DOE
Specimen obtained 10/01/2009

Hemoglobin A1c

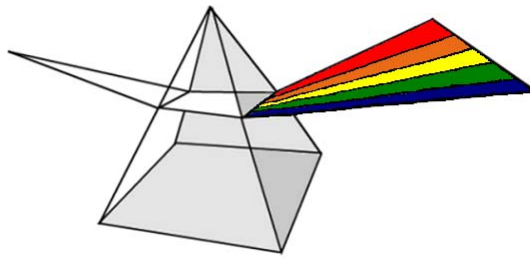


Your blood Hemoglobin A1c measured 5.4%. The normal range of 4.5 to 5.7% is also the optimal range. HbA1c is produced by the binding of glucose to hemoglobin in the red blood cells (RBC). The RBC membrane is completely permeable to glucose. The HbA1c formed is directly proportional to the average blood glucose that the RBC's have been exposed to during the 120-day average life span of the cells. Although this test is usually used to monitor the long-term blood glucose level of type 1 diabetics, it partially reflects the average glycemic index of the foods consumed by an individual. An intake of higher glycemic foods may raise the HbA1c. This would stimulate more insulin. High insulin levels are associated with elevated CRP levels, a known marker for inflammation.

Estimated Average Glucose

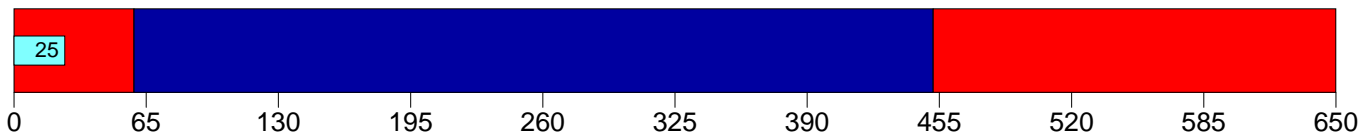


Your estimated average glucose (eAG) measured 108 mg/dL. Optimal levels lie between 83-117 mg/dL. Elevated results are an indication of diabetes. The eAG is a calculated value derived from your Hemoglobin A1C level. It represents your average glucose levels over a 60-90 day period. It is also reported in the same units (mg/dL) as your blood glucose meter. Like Hemoglobin A1C, eAG evaluates a patient's success at controlling glucose levels. The goal of diabetic therapy is to keep your eAG below 154 mg/dL.



SPECIAL ASSAYS

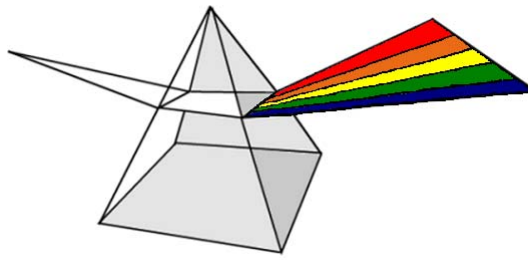
DHEA-S



Your blood DHEA-S measured 25 ug/dL. The normal range is 59 to 452 ug/dL. This is also the optimal range. Bone mineral density was measured at the lumbar spine, hip & radius in 105 women, ages 45-69 years, 55 women had osteoporosis & 50 had normal bone mineral density. The average serum level of DHEA-S was 60% lower in women with osteoporosis than those that had normal bone mineral density. Women with low DHEA-S values were 40 times more likely to suffer from osteoporosis. There was no relationship between bone density & estrogen levels. Osteoporosis Int 1994; 4:84-88

DHEA-S tends to decrease with age and correlates with a decrease in cell-mediated immunity. DHEA-S is necessary for the production of testosterone, estrone and estradiol (the sex hormones). Because DHEA-S is a precursor of estrone and estradiol, it can greatly affect female physiology. DHEA-S also has an anti-stress, anti-obesity, pro-sleep and cholesterol lowering affect. It may be a key factor in preventing age-related dementia and neuronal damage. Vegetarian diets tend to promote the production of DHEA-S.

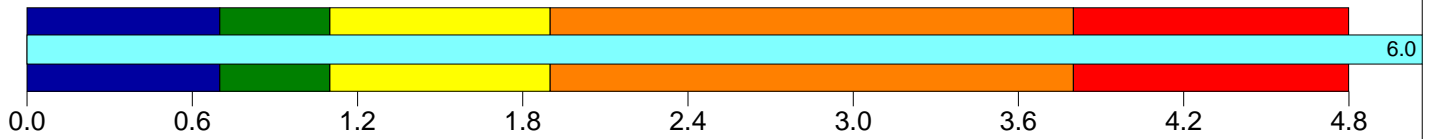
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Results For JOHN L DOE
Specimen obtained 10/01/2009

CRP-hs



Your C-Reactive Protein (CRP-hs) measured 6.0 mg/L. The normal range is less than 1.9 mg/L while the optimal range is less than 0.7 mg/L. The assay employed is a highly sensitive method, which is intended for the detection of very small amounts of inflammation that may take place if atherosclerosis (the deposition of fat on the interior lining of the blood vessels) is occurring. Atherosclerosis can lead to heart attack or stroke. Other inflammatory processes can also increase the CRP level. Up to 1/3 of the population that suffers heart attacks have normal blood pressure and cholesterol levels.

Risk Categories for CHD	CRP (mg/L)
-----	-----
Very Low	less than 0.7
Low	0.7 - 1.1
Moderate	1.2 - 1.9
High	2.0 - 3.8
Very High	greater than 3.8

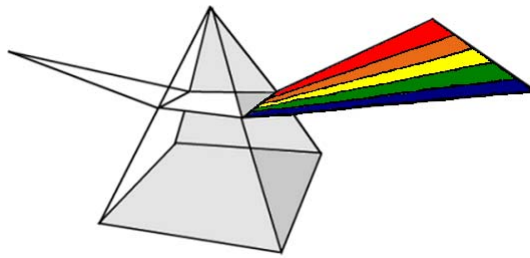
Lipoprotein (a)



Your lipoprotein (a) measured 4 mg/dL. While the normal range is less than 30 mg/dL, the optimal range is less than 20 mg/dL. Lipoprotein (a) may be the most atherogenic of the lipoproteins. Atherogenicity refers to the ability of a compound to cause advanced atherosclerotic disease. Individuals with increased concentrations of lipoprotein (a) are considered to have a significantly higher risk of coronary heart disease (CHD). Lipoprotein (a) varies with different population groups. African Americans have higher levels than caucasians and Asians, while native Americans have lower levels than caucasians. High levels carry the same risk no matter the ethnic population.

Risk Categories for CHD	Lipoprotein(a) (mg/dL)
-----	-----
Desirable	less than 20
Borderline	20 - 30
High	31 - 50
Very High	greater than 50

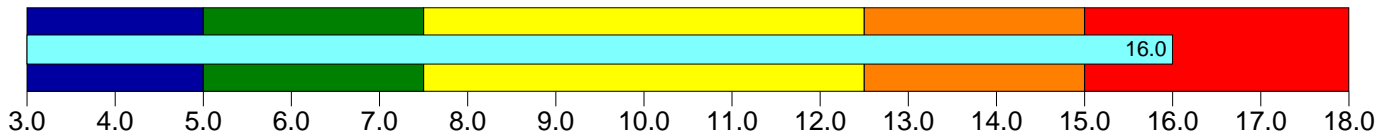
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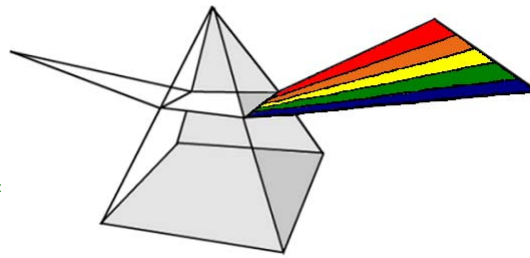
Results For JOHN L DOE
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Homocysteine



Your plasma homocysteine measured 16.0 umol/L. While the normal range is 5.0 to 15.0 umol/L, values that lie at the low end of normal are preferred. Homocysteine is an amino acid produced in the liver exclusively from dietary sources of methionine. An elevated level is an important independent risk factor for atherosclerotic vascular disease affecting coronary, cerebral and peripheral arteries. It is stated that homocysteine has a toxic effect on the endothelial lining of the arteries, thus producing plaque formation. The most common cause of an elevated level is a deficiency of folic acid, vitamin B6 or B12. Studies have shown that 25 to 33 percent of women with recurrent miscarriage have increased blood levels of homocysteine. Having a folic acid deficient diet is the largest contributor to elevated homocysteine. Vitamin therapy and diet modification can work to lower levels of homocysteine by as much as 40 percent in a normal person.

Check Your Health



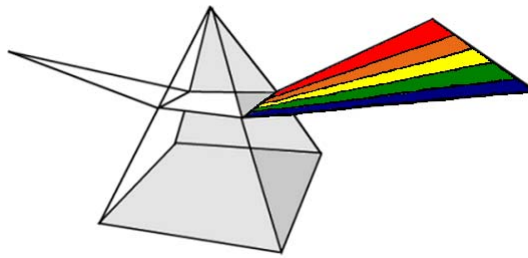
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Results For JOHN L DOE
Specimen obtained 10/01/2009

Test Summary

<u>Test Name</u>	<u>Result</u>	<u>Ref</u>	<u>Lo</u>	<u>Hi</u>	<u>Units</u>
Vitamin A	35	-*-	24	90	ug/dL
Vitamin E	0.5	* ---	0.6	2.7	mg/dL
Vitamin C, Plasma	1.8	-*-	0.6	2.0	mg/dL
Vitamin C, Urine	40	-*-	20	50	mg/dL
Vit. B12-Cobalamin	2000	--- *	165	1100	pg/mL
Folic Acid (Folate)	7.0	* ---	7.2	17.2	ng/mL
Vitamin D (25-OH-D)	14	* ---	40	80	ng/mL
Beta Carotene	20	-*-	5	65	ug/dL
Lutein	5	* ---	7	28	ug/dL
Lycopene	57	--- *	13	54	ug/dL
Coenzyme Q10	1.0	-*-	0.3	1.5	ug/mL
Vit. B1-Thiamine	50	-*-	33	110	ug/L
Vit. B2-Riboflavin	12.0	-*-	2.8	20.0	ug/L
Vit. B3-Niacin	2.9	-*-	1.2	2.9	ug/mL
Vit. B5-Pantothenic Acid	20.0	-*-	10.0	36.0	mg/dL
Vit. B6-Pyridoxine	70	-*-	42	89	% sat.
Magnesium, RBC	3.8	* ---	4.0	6.4	mg/dL
Copper, RBC	60	-*-	46	79	ug/dL
Manganese, RBC	1.5	-*-	1.1	1.7	ug/dL
Selenium, RBC	55	* ---	75	240	ug/L
Zinc, RBC	13.0	-*-	8.6	15.8	ug/mL
Chromium, Serum	1.5	-*-	0.1	1.7	ug/L
Boron, Urine	0.5	-*-	0.5	2.5	ug/mL
Strontium, Urine	0.015	-*-	0.012	0.132	ug/mL
Phosphorus, Serum	3.5	-*-	2.4	4.2	mg/dL
Calcium, Serum	9.0	-*-	8.5	10.6	mg/dL
Glutamine	66	-*-	48	84	umol/dL
Taurine	6.7	-*-	2.8	6.8	umol/dL
Histidine	5.0	-*-	2.4	10.0	umol/dL
Isoleucine	3.0	* ---	4.0	10.0	umol/dL
Leucine	13.0	-*-	9.5	19.5	umol/dL
Lysine	20.0	-*-	11.0	25.0	umol/dL
Methionine	4.0	-*-	1.7	4.5	umol/dL
Phenylalanine	8.9	--- *	3.5	8.4	umol/dL
Threonine	10.0	-*-	5.5	14.1	umol/dL
Tryptophan	0.6	* ---	0.7	2.0	umol/dL
Valine	20.0	-*-	18.0	34.0	umol/dL
Arginine	6.0	-*-	2	6	umol/dL
Free T3	1.35	* ---	1.45	3.48	pg/mL
Cholesterol	190	-*-	100	200	mg/dL
Triglycerides	80	-*-	35	150	mg/dL
HDL Cholesterol	25	* ---	29	72	mg/dL
VLDL	16	-*-	5	30	mg/dL
LDL	149	--- *	50	100	mg/dL
Cholesterol/HDL Ratio	7.6	--- *	0.0	5.0	Ratio
LDL/HDL Ratio	6.4	--- *	0.0	3.6	Ratio
K/Na Ratio	2.00	--- *	0.40	1.00	Ratio
Pyrrroles, Urine	30	--- *	0	20	ug/dL
Linoleic	100	-*-	90	182	uM/L
Gamma Linolenic (GLA)	2.0	-*-	0.7	3.5	uM/L

Check Your Health



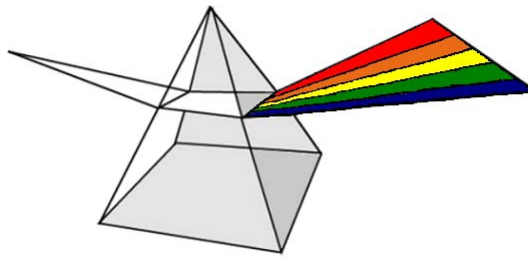
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Results For JOHN L DOE
Specimen obtained 10/01/2009

Test Summary

<u>Test Name</u>	<u>Result</u>	<u>Ref</u>	<u>Lo</u>	<u>Hi</u>	<u>Units</u>
Dihomogammalinolenic	20	-*	11	31	uM/L
Arachidonic	200	-*	90	250	uM/L
Total Omega-6	322.0	-*	191.7	466.5	uM/L
Alpha Linolenic	2.8	-*	0.5	2.9	uM/L
Eicosapentaenoic (EPA)	5.0	-*	4.0	20.0	uM/L
Docosahexaenoic (DHA)	50	-*	14	90	uM/L
Total Omega-3	57.8	-*	18.5	112.9	uM/L
Arachidonic/EPA	40.0	-* *	5.0	13.0	Ratio
Oleic	260	-*	120	260	uM/L
Total Unsaturated	640	-*	330	839	uM/L
Palmitic	450	-* *	210	370	uM/L
Stearic	500	-* *	215	375	uM/L
Total Saturated	950	-* *	425	745	uM/L
Unsat. to Saturated Ratio	0.67	* -*	0.78	1.13	Ratio
Elaitic (C-18)	15.0	-* *	2.0	10.0	uM/L
Glucose, Fasting	88	-*	65	99	mg/dL
Hemoglobin A1c	5.4	-*	4.5	5.7	%
Estimated Average Glucose	108	-*	83	117	mg/dL
DHEA-S	25	* -*	59	452	ug/dL
CRP-hs	6.0	-* *	0.0	1.9	mg/L
Lipoprotein (a)	4	-*	0	30	mg/dL
Homocysteine	16.0	-* *	5.0	15.0	umol/L

Check Your Health



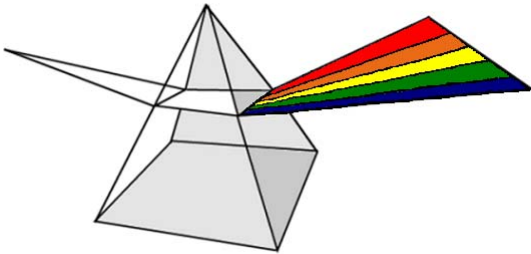
Protective Medicine for Your Optimal Health

Results For JOHN L DOE
Specimen obtained 10/01/2009

Test Index

Alpha Linolenic	27
Arachidonic/EPA	29
Arachidonic	26
Arginine	19
Beta Carotene	5
Boron, Urine	13
Calcium, Serum	14
Cholesterol/HDL Ratio	22
Cholesterol	20
Chromium, Serum	12
Coenzyme Q10	7
Copper, RBC	10
CRP-hs	35
DHEA-S	34
Dihomogammalinolenic	25
Docosahexaenoic (DHA)	28
Eicosapentaenoic (EPA)	27
Elaitic (C-18)	32
Estimated Average Glucose	33
Folic Acid (Folate)	4
Free T3	20
Gamma Linolenic (GLA)	25
Glucose, Fasting	32
Glutamine	15
HDL Cholesterol	21
Hemoglobin Alc	33
Histidine	16
Homocysteine	36
Isoleucine	16
K/Na Ratio	23
LDL/HDL Ratio	23
LDL	22
Leucine	16
Linoleic	24
Lipoprotein (a)	35
Lutein	6
Lycopene	6
Lysine	17
Magnesium, RBC	10
Manganese, RBC	11
Methionine	17
Oleic	29
Palmitic	30
Phenylalanine	18
Phosphorus, Serum	14
Pyrroles, Urine	24
Selenium, RBC	11
Stearic	31
Strontium, Urine	13
Taurine	15
Threonine	18
Total Omega-3	28

Check Your Health



Protective Medicine for Your Optimal Health

Results For JOHN L DOE
Specimen obtained 10/01/2009

Test Index

Total Omega-6	26
Total Saturated	31
Total Unsaturated	30
Triglycerides	21
Tryptophan	19
Unsat. to Saturated Ratio	31
Valine	19
Vit. B12-Cobalamin	4
Vit. B1-Thiamine	7
Vit. B2-Riboflavin	8
Vit. B3-Niacin	8
Vit. B5-Pantothenic Acid	9
Vit. B6-Pyridoxine	9
Vitamin A	2
Vitamin C, Plasma	3
Vitamin C, Urine	3
Vitamin D (25-OH-D)	5
Vitamin E	2
VLDL	21
Zinc, RBC	12

FOOD SOURCES FOR PROTECTIVE MEDICINE

Beta Carotene

Natural beta carotene is converted to vitamin A in the body and concentrated amounts of beta carotene are found in carrot juice, sweet potato, pumpkin, carrots, squash, lamb's quarters, shallot, red chili pepper, mango, spinach, dandelion greens, turnip greens, kale, cantaloupe, borage, beet greens, persimmon, broccoli, apricot, papaya, prune, peach, and watermelon, taro leaves, mustard greens, purslane, potato.

Vitamin C

Foods with high concentrations of vitamin C include guava, papaya, red bell pepper, peach, red chili pepper, orange, apricot, black currant, strawberry, kale, kiwi, lamb's quarters, longans, grapefruit, lychee, cranberry, broccoli, vine spinach, cassava root, tangerine, mango, cantaloupe, potato, brussel sprouts, watermelon, sapote, kohlrabi, snow peas, sweet potato, cabbage, liver, soybeans.

Vitamin A

Foods with high concentrations of vitamin A include liver, liverwurst, cod liver oil, eel, tuna, goat cheese, egg, kidney, mackerel, sturgeon, mozzarella cheese, milk, clam, Limburger cheese, Muenster cheese, bluefish, cheddar cheese, pate (goose liver), salmon, whipping cream, American cheese, oyster, mackerel, Swiss cheese, Camembert cheese.

Vitamin E

Foods with high concentrations of vitamin E include black currant seed oil, evening primrose oil, wheat germ oil, sunflower oil, sweet potato, almond, purslane, hazelnut oil, cottonseed oil, almond oil, mayonnaise, peanut, shrimp, mango, peanut oil, spinach, olive oil, oyster, perch, butter, salmon, asparagus, avocado, hamburger, cabbage, apricot.

Recommended Educational Material

Audio and videotapes only available at the Center:

Vitamin A

by Ronald E. Hunninghake, M.D. #2181

Which Supplements are Best For Me?

by Donald R. Davis, Ph.D. #2114

The Whole Foods Diet

by Ronald E. Hunninghake, M.D. #2063

Vitamin Takers: Quacks, Kooks, or Cutting Edge?

by James A. Jackson, Ph.D. #2113

Healthy Healing Test for Vegetarians and Meat Eaters

by Donald A. Davis, Ph. D. #2183

Vitamin C

by Ronald E. Hunninghake, M.D. #2148

Is Pycnogenol a Super Antioxidant?

by Ronald E. Hunninghake, M.D. #2145

The Third Face of Vitamin C

by Robert Cathcart III, M.D. #2164

Antioxidant and Aging: Fact or Fallacy

by James A. Jackson, Ph.D. #2205

Vitamin E - the Circulation "Superstar"

by Ronald E. Hunninghake, M.D. #2111

Fatty Acids and Essential Oils

by Ronald E. Hunninghake, M.D. #2136

Nuts About Nuts

by Donald R. Davis, Ph.D. #2085

Antioxidant, Free Radicals and Disease

by James A. Jackson, Ph.D. #2170

Books available at the Center:

Wonderful World Within You 20th Anniversary Special Edition (Highly Recommended to be read first!!!)

by Dr. Roger J. Williams

Eat Right for Your Type

by Peter J. D'Adamo with Catherine Whitney

Smart Nutrients

by Dr. Abram Hoffer and Dr. Morton Walker

Antioxidants Your Complete Guide

by Carolyn Reuben

A Taste of Health from the Heart

recipes from The Taste of Health Restaurant

Vitamin E Update

by Len Mervyn, Ph.D.

To obtain a complete list of education materials available or to place an order: Call (800) 447-7276

The Center for the Improvement of Human Functioning
International

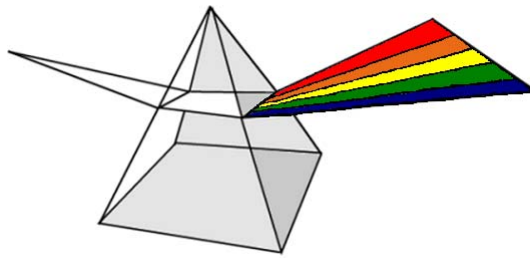
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Now that you have participated in the first opportunity to promote your own better health through Health Hunter/Beat The Odds, you are part of a growing group stimulating an epidemic of health.

Each HH/BTO health panel provides individualized knowledge about your very own levels of nutrients, which are known to reduce the risk of developing health-threatening problems. By optimizing your levels and rechecking them at least annually, you provide every cell in your body with a better environment.

If you have any questions about your tests please contact your personal physician or come in and use our very excellent Mabee Library to learn more in regards to those tests. We believe that the better informed you are, the better you will be able to maintain your health and vigor.

The following Lunch & Lecture video tapes are available to purchase in the Gift of Health. They are also available to view in the Mabee library.

- #2181 Know Your Nutrients: Vitamin A - Ron Hunninghake, M.D.
- #3058 Know Your Nutrients: Vitamin E - Rebecca Kirby, M.D., R.D.
- #3062 Know Your Nutrients: Vitamin C - Hugh Riordan, M.D.
- #3040 Know Your Nutrients: Vitamin B1 - Ron Hunninghake, M.D.
- #3044 Know Your Nutrients: Vitamin B2 - Tim Lawton, M.D.
- #3046 Know Your Nutrients: Vitamin B3 - Rebecca Kirby, M.D., R.D.
- #3042 Know Your Nutrients: Vitamin B6 - Hugh Riordan, M.D.
- #3052 Know Your Nutrients: Vitamin B12 - Ron Hunninghake, M.D.
- #2954 Keys to Staying Healthy: Why is Folic Acid Important - Hugh Riordan, M.D.
- #3056 Know Your Nutrients: Vitamin D - Rebecca Kirby, M.D., R.D.
- #2961 Keys to Staying Healthy: Why is Vitamin D Important? - Hugh Riordan, M.D.
- #2828 Lycopene: Or Will a Tomato a Day Keep Cancer Away? - James Jackson, Ph.D.
- #3208 CoQ10 - The Energy Nutrient - Chad Krier, N.D., D.C.
- #3181 Magnesium: The Bone Strengthening Mineral (.and More!) - Ron Hunninghake, M.D.
- #2242 Know your Nutrients: Copper - a Double Edged Sword - Ron Hunninghake, M.D.
- #2331 Know Your Nutrients: Manganese - Ron Hunninghake, M.D.
- #2958 Keys to Staying Healthy: Why is Selenium Important? - Hugh Riordan, M.D.
- #2802 Know Your Nutrients: Zinc - Ron Hunninghake, M.D.
- #2402 Zinc: Brains, Bugs, and Better Skin - Ron Hunninghake, M.D.
- #2477 Boron: For Better Bones - Ron Hunninghake, M.D.
- #2363 Calcium: The Many Ways "It Does a Body Good" - Ron Hunninghake, M.D.
- #2096 Know Your Nutrients: The Amino Acids - Ron Hunninghake, M.D.
- #2290 Know Your Nutrients: Glutamine - Ron Hunninghake, M.D.
- #2842 T3: The Missing Piece in Optimal Thyroid Function - Ron Hunninghake, M.D.
- #2136 Know Your Nutrients: Fatty Acids and Essential Oils - Ron Hunninghake, M.D.
- #2180 DHEA: What Doesn't It Do? - Ron Hunninghake, M.D.
- #3211 C-Reactive Protein - Ron Hunninghake, M.D.
- #2894 Breast Biomarkers - Ron Hunninghake, M.D.
- #2901 Eye Health - Hugh Riordan, M.D.
- #3019 Aging and Vision Loss: Can Nutrients Help? - James Jackson, Ph.D.
- #3210 Improve Your Eyes and Save your Sight - Rebecca Kirby, M.D., R.D.
- #2896 Heart Biomarkers - Ron Hunninghake, M.D.