

COMPANY HEALTH SOLUTIONS

Male Healthy ePrint - Donaldson Tool & Dye- Employees wellness

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JOHN DOE

Age: 65 Sex: Male Height: 67 in. Weight: 214

Date: 01/22/07

Test

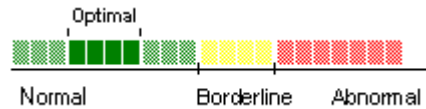
Health Indicator

You

Reference

Optimal

SYSTOLIC BLOOD PRESSURE



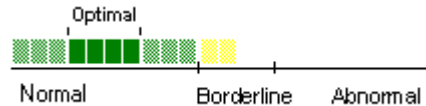
152

90-130

100-120

Your Systolic Blood Pressure is the highest pressure reached in your arteries during and at the end of the contraction of your heart. Your blood pressure may vary throughout the day and may be altered by many factors physical and/or emotional. Intake of too much salt or liquids, stress, strenuous physical exercise and emotions such as frustration, anger and hostility may increase your blood pressure if they persist over a long period of time. Chronically high blood pressure may create damages to your brain, kidneys, eyes and heart.

DIASTOLIC BLOOD PRESSURE



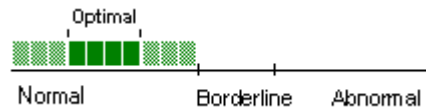
89

60-85

70-80

Your Diastolic Blood Pressure is the lowest pressure reached in your arteries and is recorded when your heart reaches its resting phase called diastole. Differently then the systolic the diastolic blood pressure takes time to change and when it reaches 90 millimeters of mercury or more is diagnostic for Hypertension. Proper diet, relaxation exercises and exercise can help in reducing your Diastolic Blood Pressure.

RESTING HEART RATE



80

40 - 90

50 - 60

Resting heart rate refers to a person's heart rate at rest. Heart rate is a term used to describe the frequency of the cardiac cycle. It is considered one of the four vital signs. Usually it is calculated as the number of contractions (heart beats) of the heart in one minute and expressed as "beats per minute" (bpm). See "Heart" for information on embryofetal heart rates. The heart beats up to 120 times per minute in childhood. When resting, the adult human heart beats at about 70 bpm (males) and 75 bpm (females), but this rate varies among people. However, the reference range is nominally between 60 bpm (if less termed bradycardia) and 100 bpm (if greater, termed tachycardia). Resting heart rates can be significantly lower in athletes. The infant/neonatal rate of heartbeat is around 130-150 bpm, the toddler's about 100-130 bpm, the older child's about 90-110 bpm, and the adolescent's about 80-100 bpm.

Test

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HEMATOCRIT - MALE



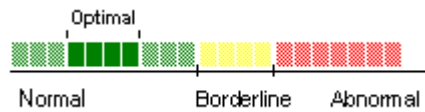
38

36 - 50

40 - 45

Hematocrit is the volume of red blood cells as a percentage of total blood volume. Like a fireplace, our body needs sufficient oxygen to burn food and produce energy efficiently. A lack of oxygen can cause a lack of concentration, exhaustion, migraine headaches, problems with digestion, poor muscle tone, a weak immune system, accelerated aging, and chronic degenerative diseases such as cancer. The value is expressed as a percentage or fraction of cells in blood. For example, a Hematocrit value of 40% means that there are 40 milliliters of red blood cells in 100 milliliters of blood. The Hematocrit reflects both the number of red cells and their volume (MCV). If the size of the red cell decreases, so will the Hematocrit and vice versa.

HEMOGLOBIN - MALE



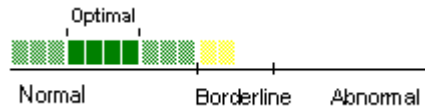
9

12.5 - 17

14 - 16

Your blood is composed of a liquid and a cellular component. The cells circulating in the blood stream may be distinguished into three groups: the Red cells, the White cells, and the Platelets. Of these only the white cells can really be considered cells in the real sense of the word, since the red cells and the platelets do not have a nucleus. The average adult has about 30 trillion red blood cells and the blood test measures the amount of red blood cells in one cubic millimeter of blood. The normal value of red blood cells for a man is between 4.5 to 4.8 million per cubic millimeter.

**BLOOD SUGAR
(Glucose)**



104

65 - 99

70 - 80

Sugar (Glucose) is the primary energy source for all body tissues. The sugars and carbohydrates you eat are ordinarily converted into glucose, which can be either used to produce immediate energy or stored as "Glycogen" in the liver or as fat throughout the body. Glycogen and fat thus serve as sources of reserve energy. The body can also manufacture glucose from fats and amino acids. Glucose can be measured in either the blood or the urine. When you wish to have your blood tested, we recommend that you have fasted for 12-14 hours (fasting blood sugar, or FBS). Another useful measurement of your blood sugar is two hours after your main meal. (2-hour postprandial blood sugar, or 2-hour pp). When neither a fast nor a special meal is observed prior to the test, it is called a random blood sugar (RBS). MILD ELEVATION of your blood sugar (120 to 150 mg/dl) may be caused by diabetes, pregnancy, hypertension, hyperthyroidism, excessive pituitary function, excessive adrenal function, obesity, thiazide diuretics, or a recent heavy meal. MODERATE ELEVATION of your blood sugar (150 to 500 mg/dl) may be caused by diabetes, recent anesthesia, carbon monoxide poisoning, infectious disease, or disease of the central nervous system. HIGH LEVELS of blood sugar are always associated with diabetes.

Test

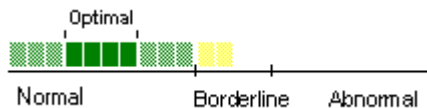
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CHOLESTEROL



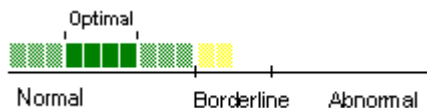
212

120-200

140-180

Cholesterol is a necessary substance in your body from your first day of life. Experts recommend a cholesterol level below 200 for good health. Between 200 and 239 is borderline and above 240 is dangerous. When associated with at least two risk factors such as high blood pressure, diabetes, previous heart disease or stroke, excess weight and being a smoker, it increases the incidence of having coronary artery disease and heart attacks. In the United States and Canada, the average adult's cholesterol level is 210-220. Elsewhere around the world it's about 150 and people get much less coronary artery disease. It has become more of a threat to North Americans than to most other populations because a major cause of increased cholesterol is saturated fat, and other populations don't eat the amount of saturated fat that we do. Saturated fats are oil from animal products and some plants (especially coconut and palm) that are solid, rather than liquid, at room temperature. Some of the commonly eaten foods high in saturated fat include beef, whole milk, pork, butter, fried potatoes, ice cream and lunch meats.

HDL (Good Cholesterol)



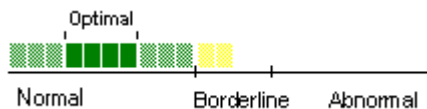
39

40 - 60

> 60

High density lipoproteins (HDL) are proteins coated "packages" that carry fat and cholesterol through the body. The function of HDL is to remove cholesterol from the blood by transporting it to the liver where it will be prepared for excretion through the bile. HDL has a protective effect on the deposit of fat in the wall of blood vessels. Increasing its level in the blood will reduce the risk of cardiovascular disease. The use of polyunsaturated, monounsaturated fats (Olive Oil), and physical exercise may increase the level of HDL.

TRIGLYCERIDES



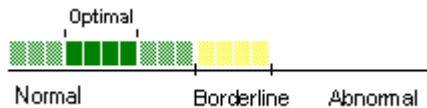
150

0-149

60-90

Triglycerides are a type of fatty substance which must be measured together with your cholesterol for a complete picture of your circulating blood fats. Blood triglycerides tend to be elevated in people who have high cholesterol levels, in people with diabetes or chronic kidney disease, and in those who are obese. The relationship between triglycerides and coronary artery disease is still controversial. Some studies suggest that high blood triglycerides might increase the risk of coronary artery disease. If your blood level of triglycerides is elevated you should consult your doctor for dietary changes and weight loss and exercise program or for the use of medication which may be necessary in some cases.

LDL (Bad Cholesterol)



134

100 - 129

< 100

Low density lipoproteins (LDL) transport one half to two thirds of all blood cholesterol to various body tissues. A certain amount of LDL cholesterol (up to 130) is normal. But when the level increases, LDL promotes plaque development on the walls of the coronary arteries, slowing the flow of blood and sometimes blocking the artery entirely. Levels of 130-160 are considered borderline high and levels of 160 or higher are definitely abnormal and should be reduced with rigorous diet, other lifestyle changes, and/or with drug therapy.

Controversies are now surfacing on the danger of having LDL blood levels which are too low. The relation to some type of cancers and other diseases have been noticed with LDL levels reduced below 90 and closer to 50. Therefore is unclear today how safe is to lower your LDL blood level. A safer level seems to be between 90-130 and should be associated with an increase in the HDL levels.

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VLDL (Very Low Density Lipoproteins)



38

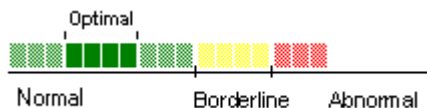
5-40

15-30

VLDL (Very Low Density Lipoprotein) is a fraction of Triglycerides circulating in your blood stream. Not as important as the LDL, this blood fats follows the levels of your Triglycerides.

Tryglycerides levels may be elevated either for the presence of high fats in your food which when absorbed in your intestine is transformed as Chylomicrons and give a milky appearance to the liquid part of your blood (serum) or for the presence of Very Low Density Lipoproteins (VLDL) which is the part of Triglycerides produced by your body and not ingested with food.

CHOLESTEROL/HDL RATIO



5

4-4.45

3.10-3.45

The HDL in the blood is believed to serve two functions: 1) it coats the inside of the artery wall and provide a kind of protective layer of grease to prevent fat deposits from building up and 2) it serves as scavenger by actually helping dissolve fatty deposits when they occur. The basic rule of balance for your blood is to have a relatively high amount of HDL in your body in relation to your total amount of cholesterol. This is called the Cholesterol/HDI Ratio.

The ratio in men should always be less than 5.0, and preferably less than 4.5. For women, the ratio should be lower and always under 4.0 and preferably under 3.5. In other words the man's HDL should always represent at least 20% of the total cholesterol count (and preferably should be 25% or greater). For a woman the HDL cholesterol should make up at least 25% (or preferably 30%) of the total cholesterol. The Cholesterol/HDL Ratio is probably the best predictor of future coronary disease. Active people with low levels of body fat tend to show the best cholesterol balance (ratio) in their blood.

PROTEIN TOTAL - Serum



7.35

6.0 - 8.5

7.0 - 8.0

The total protein test is a rough measure of all of the proteins in the plasma portion of your blood. Proteins are important building blocks of all cells and tissues; they are important for body growth and health. Total protein measures the combined amount of two classes of proteins, albumin and globulin. Albumin is a carrier of many small molecules, but its main purpose is to keep fluid from leaking out of blood vessels, while globulin proteins include enzymes, antibodies, and more than 500 other proteins. The ratio of albumin to globulin (A/G ratio) is calculated from values obtained by direct measurement of total protein and albumin. It represents the relative amounts of albumin and globulins.

BUN/CREATININE RATIO



18

8 -27

15 - 20

The ratio of BUN/Creatinine is normally 10:1. With dehydration, the ratio can increase to 20:1 or even higher. An increased BUN/Creatinine ratio may also be due to certain types of kidney disease, breakdown of blood in the intestinal tract, increased dietary protein, or any clinical circumstance in which insufficient blood is flowing through the blood vessels to the kidneys (such as heart failure or kidney artery disease). The BUN/Creatinine ratio is decreased in certain types of kidney disease, liver disease, malnutrition and in a condition known as Sickle Cell Anemia.

Test

Health Indicator

You

Reference

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ALBUMIN, SERUM



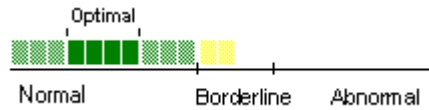
4.50

3.50 - 5.50

4.25 - 4.75

Albumin is the most abundant protein in the blood plasma. It keeps fluid from leaking out of blood vessels; nourishes tissues; and transports hormones, vitamins, drugs, and ions like calcium throughout the body. Albumin is made in the liver and is extremely sensitive to liver damage. The concentration of albumin drops when the liver is damaged, with kidney disease (nephrotic syndrome), when a person is malnourished, if a person experiences inflammation in the body, or with shock. Albumin increases when a person is dehydrated. Albumin is made in the liver and is the major protein of the blood, helping to keep water in blood vessels and transport substances. Decreased albumin levels can be associated with malnutrition, liver disease, and kidney disease.

GLOBULIN, TOTAL



1.38

1.5 - 4.5

2.5 - 3.0

Total protein measures the combined amount of two classes of proteins, albumin and globulin. Albumin is a carrier of many small molecules, but its main purpose is to keep fluid from leaking out of blood vessels, while globulin proteins include enzymes, antibodies, and more than 500 other proteins. The immunoglobulins are the globulins of our immune systems and of antibodies while many other globulin are carriers of hormones or important components of enzymes.

POTASSIUM



4.20

3.5 - 5.5

4.0 - 5.0

Potassium helps to control the nerves and muscles. Potassium is an electrolyte, a positively charged molecule that works with other electrolytes, to help regulate the amount of fluid in the body, stimulate muscle contraction, and maintain a stable acid-base balance. Potassium is present in all body fluids, but most potassium is found within your cells. Only about two percent is present in fluids outside the cells and in the liquid part of the blood (called serum or plasma). Because the blood concentration of potassium is so small, minor changes can have significant consequences. If potassium levels go too low or too high, your health may be in considerable danger: you are at risk for developing shock, respiratory failure, or heart rhythm disturbances. An abnormal concentration can alter the function of neuromuscular tissue; for example, the heart muscle may lose its ability to contract.

A/G RATIO



1.80

1.1 - 2.5

1.60 - 1.75

The total protein test is a rough measure of all of the proteins in the plasma portion of your blood. Proteins are important building blocks of all cells and tissues; they are important for body growth and health. Total protein measures the combined amount of two classes of proteins, albumin and globulin. Albumin is a carrier of many small molecules, but its main purpose is to keep fluid from leaking out of blood vessels, while globulin proteins include enzymes, antibodies, and more than 500 other proteins. The ratio of albumin to globulin (A/G ratio) is calculated from values obtained by direct measurement of total protein and albumin. It represents the relative amounts of albumin and globulins. Normally, there is a little more albumin than globulins, giving a normal A/G ratio of slightly over 1.

Test

Health Indicator

You

Reference

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CHLORIDE, SERUM



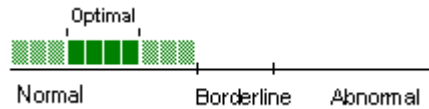
105

96-109

100-105

Similar to sodium, it helps to maintain the body's electrolyte balance. Chloride is an electrolyte, a negatively charged molecule that works with other electrolytes, such as potassium, sodium, and total carbon dioxide (CO₂), to help regulate the amount of fluid in the body and maintain the acid-base balance. Chloride is present in all body fluids but is found in the highest concentration in the blood and in the fluid outside of the body's cells. Most of the time, chloride concentrations mirror those of sodium, increasing and decreasing for the same reasons and in direct relationship to sodium. When there is an acid-base imbalance, however, blood chloride levels can change independently of sodium levels as chloride acts as a buffer. It helps to maintain electrical neutrality at the cellular level by moving into or out of the cells as needed.

BILIRUBIN - TOTAL



1

0.10 - 1.20

0.20 - 0.80

As red blood cells normally age and break down, bilirubin—a by-product—is released into the blood and is cleared by the liver. Bilirubin is an orange-yellow pigment found in bile. Red blood cells (RBCs) normally degrade after 120 days in the circulation. At this time, a component of the RBCs, hemoglobin (the red-colored pigment of red blood cells that carries oxygen to tissues), breaks down into bilirubin. Approximately 250 to 350 mg of bilirubin is produced daily in a normal, healthy adult, of which 85% is derived from damaged or old red cells that have died, with the remaining amount from the bone marrow or liver. High bilirubin values may indicate a liver function problem, bile duct blockage, or excessive destruction of red blood cells.

ALKALINE PHOSPHATASE - Serum



28

25 - 150

50 - 125

Alkaline phosphate is an enzyme, a protein that helps cells work. You find alkaline phosphate in high concentrations in the cells that make bone and in the liver. In the liver, it is found on the edges of cells that join to form bile ducts (tiny tubes that drain bile from the liver to the bowels where it is needed to help digest fat in the diet). Smaller amounts of ALP are found in the placenta (afterbirth) of women who are pregnant, and in the bowel. Each of these body parts makes different forms of ALP. The different forms are called isoenzymes.

AST (Aspartate Amino Transferase)-SGOT



35

0-40

15-25

AST {Aspartate aminotransferase} which used to be called SGOT is an enzyme found mostly in the heart and liver, and to a lesser extent in other muscles. When liver or muscle cells are injured, they release AST into the blood. Testing for AST is usually used to detect liver damage. AST levels are also often compared with levels of other liver enzymes, alkaline phosphatase (ALP) and alanine aminotransferase (ALT), to determine which form of liver disease is present.

Test

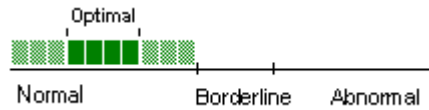
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Reference

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ALT (Alanine Amino Transferase) - SGPT



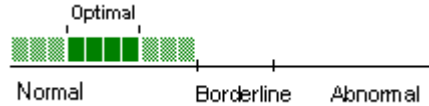
38

0-40

15-25

ALT (Alanine Aminotransferase) which used to be called SGTP is an enzyme found mostly in the liver; smaller amounts of it are also in the kidneys, heart, and muscles. Under normal conditions, ALT levels in the blood are low. When the liver is damaged, ALT is released into the blood stream, usually before more obvious symptoms of liver damage occur, such as jaundice (yellowing of the eyes and skin). The ALT test detects liver injury.

BUN (Blood Urea Nitrogen)



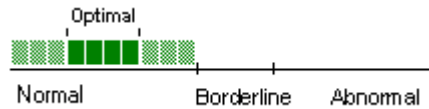
23

5 - 26

10-16

The major breakdown product of bodily protein (e.g., in that hamburger you had for lunch) is Urea, which is first formed in the liver. Urea contains nitrogen and together, in excess quantity, they are both toxic to the body and must be removed. Kidneys normally do an excellent job of removing urea, but when they start to fail, the blood concentration of urea begins to rise. The reference range (or range within which most normal people's test values fall) for BUN is 10-20 mg/dL. Other circumstances, such as blood in the intestinal tract, a big meal of cooked meat, simple dehydration (too little water in the tissues), or any condition which decreases blood flow to the kidneys, can cause the concentration of blood urea to rise and suggest there is something wrong in kidney function. Therefore, a second blood test is done at the same time.

CREATININE - SERUM



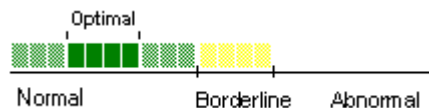
1.50

0.5-1.5

0.75-1.25

Creatinine is a normal blood chemical that is a breakdown product of muscle metabolism. Kidneys are normally very efficient filters of Creatinine. Unlike urea, the blood Creatinine concentration is much less sensitive to the degree of bodily hydration, blood or meat in the intestinal tract. The reference range for blood Creatinine is 0.3-1.5 mg/dL. Considered together, the BUN, blood Creatinine and their ratio give very good evidence of the filtering function of the kidneys and also, a measure of the degree of bodily hydration.

SODIUM, SERUM



125

135-148

140-143

One of the major salts in the body fluid; sodium is important in the body's water balance and the electrical activity of nerves and muscles. Sodium is a mineral that is vital to normal body function. It is an electrolyte, a positively charged molecule that works with other electrolytes, such as potassium, chloride and total carbon dioxide (CO2), to help regulate the amount of fluid in the body. Sodium is present in all body fluids but is found in the highest concentration in the blood and in the fluid outside of the body's cells. We get sodium in our diet, from table salt (sodium chloride or NaCl), and to some degree from most of the foods that we eat. Most people have an adequate intake of sodium. The body uses what it requires and the kidneys excrete the rest in the urine to maintain sodium concentration within a very narrow range. It does this by: producing hormones that can increase (natriuretic peptides) or decrease (aldosterone) sodium losses in urine, producing a hormone that prevents water losses (antidiuretic hormone [ADH]), and controlling thirst. (Even a 1% increase in blood sodium will make you thirsty and cause you to drink water, returning your sodium level to normal.)

Test

Health Indicator

You

Reference

Optimal

CARBON DIOXIDE



23

20 - 32

24 - 28

The CO2 test measures the total amount of carbon dioxide in the blood, mostly in the form of bicarbonate (HCO₃⁻). Bicarbonate is a negatively charged electrolyte that is excreted and reabsorbed by the kidneys. It is used by the body to help maintain the body's acid-base balance (pH) and secondarily to work with sodium, potassium, and chloride to maintain electrical neutrality at the cellular level. Since the CO2 test measures all three forms of carbon dioxide in the blood (bicarbonate, H₂CO₃ [also known as carbonic acid], and dissolved CO₂) as a total CO₂, it will give a rough estimate but not an exact determination of the bicarbonate concentration.

CALCIUM, SERUM



9

8.5-10.6

9.0-9.75

Similar to sodium, it helps to maintain the body's electrolyte balance. Chloride is an electrolyte, a negatively charged molecule that works with other electrolytes, such as potassium, sodium, and total carbon dioxide (CO₂), to help regulate the amount of fluid in the body and maintain the acid-base balance. Chloride is present in all body fluids but is found in the highest concentration in the blood and in the fluid outside of the body's cells. Most of the time, chloride concentrations mirror those of sodium, increasing and decreasing for the same reasons and in direct relationship to sodium. When there is an acid-base imbalance, however, blood chloride levels can change independently of sodium levels as chloride acts as a buffer. It helps to maintain electrical neutrality at the cellular level by moving into or out of the cells as needed.

BODY MASS INDEX



23

21-25

22-24

The Body Mass Index (BMI) is a statistical method to determine if you are obese. This formula takes into account a person's height and weight. In general a person age 35 or older is obese if he or she has a BMI equal or higher than 27. For people age 34 or younger, a Body Mass Index of 25 or higher indicates obesity. BMI does not give information on a person's percentage of body fat and does not take into consideration the person's body fat distribution. BMI is, however, a predictor of coronary artery disease. Millions of Americans are obese.