



Taking the Mystery Out of Your Bloodwork

By Lee Rossano C.N.C
Advanced Nutritional Solution
Phone:248-652-4160

Glucose Panel

Fasting Glucose

- ▶ Healthy lab ranges are from 80-95
- ▶ For accurate glucose it must be a fasting blood draw
- ▶ Between 60-80 look for symptoms of hypoglycemia (low blood sugar)
- ▶ Between 80-90 ideal for weight loss
- ▶ Above 95 look for symptoms of type II diabetes

Fasting Insulin

- ▶ Healthy lab ranges are from 2.0-10.0
- ▶ Above 10 look for signs of type II diabetes
- ▶ Ideally insulin levels should be less than 8

HGB (A1C)

- ▶ Less than 5.5 is an optimal range
- ▶ This is a more sensitive test to uncover type II diabetes

Lipid Panel



Total Cholesterol 150-220

- ▶ Combination of the HDL, LDL, and 50% of total triglycerides
- ▶ The total number of the cholesterol is not as important as the ratios of the HDL, LDL, and triglycerides
- ▶ The good cholesterol is HDL it protects your heart and veins from plaquing
- ▶ HDL cholesterol ranges are more than 55 for males and 60 for females
- ▶ LDL cholesterol ideally should be under 120 unless your HDL's are higher
- ▶ HDL transfers fat to the liver with bile for digestion
- ▶ Elevated LDLs may indicate coronary heart disease and developing diabetes

Triglycerides

- ▶ The optimal range for triglycerides is about 50% of the total cholesterol
- ▶ Are produced in the liver in response to high insulin levels and carbohydrates
- ▶ This extra fat is stored in the liver and doctors refer to it as a fatter liver

Cardiac, Inflammation, & Immune System



C Reactive Protein (CRP)

- ▶ Lab ranges should be less than 5
- ▶ Elevated CRP is caused by inflammation in the body. Types of inflammation are arthritis, gout, heart disease, and autoimmune conditions.

Homocysteine

- ▶ Healthy levels are less than 10
- ▶ Homocysteine should always be tested with elevated CRP to rule out potential heart attack.
- ▶ The vitamin Folate will reduce elevated levels of CRP and Homocysteine.

MTHFR(Methylenetetrahydrofolate Reductase)

- ▶ This blood test is to see what if any of your genes are broken. If your body doesn't process folate this can lead to a broken gene and put you at risk for heart conditions among other problems. Folate is a B-vitamin needed to make red and white blood cells in the bone marrow. You also can't detox from heavy metals properly.
- ▶ An enzyme that breaks down the amino acid homocysteine. The **MTHFR** gene that codes for this enzyme has the potential to mutate, which can either interfere with the enzyme's ability to function normally or completely inactivate it.

info@whysuffer.net
248-652-4160

Metabolic Panel



One of the most important parts of the blood panel:

A comprehensive metabolic panel is a blood test that measures your glucose level, electrolyte and fluid balance, kidney function, and liver function.

Glucose-Healthy ranges are between 80-95(See slide on Glucose panel)

(BUN) Urea Nitrogen-Healthy lab ranges are from 10-20. This test measures kidney function, lab ranges above 20 can be indicative of gout.

Creatinine-Healthy lab ranges for a male is .49-1.19, females .49-1.0. If levels are elevated look for gout.

Chloride-Healthy lab ranges are from 100-106. Chloride is one of the most important electrolytes in the blood. It helps keep the amount of fluid inside and outside of the cells in balance. It also helps maintain proper blood volume, blood pressure, and PH of your body fluids.

Sodium-Healthy lab ranges are between 135-146. This mineral is measured in blood and abnormal readings can be dangerous to the body.

Metabolic Panel Continued

Potassium-Healthy lab ranges 3.5-5.3. Maintaining normal potassium levels are good for heart and muscle functions. Both sodium and potassium are vital to the body.

Carbon Dioxide-Healthy lab ranges are from 26-31. If your levels fall below 26 you could be systemic acidity. Above lab ranges your kidneys are not clearing uric acid which can lead to gout.

Calcium-Healthy lab ranges are between 9-10. Decreased lab ranges put you at risk for osteoporosis. Above lab ranges is more dangerous than below. Be sure to run a parathyroid hormone test. Vitamin C works in conjunction with vitamin D.

Protein, Total-Healthy lab ranges are from 6.6-7.4. The total protein test measures the total amount of two classes of proteins found in the fluid portion of your blood. These are albumin and globulin. Proteins are important parts of all cells and tissues. Albumin helps prevent fluid from leaking out into the blood.

Albumin-Healthy ranges are from 4.0-4.8. Levels below 4 is in need from vitamin C and possible signs of radical pathology. Increased levels you should increase water intake and consider a liver cleanse. Used to balance cells between blood and tissue cell.

Metabolic Panel Continued



Total Globulin-Healthy ranges are from 2.4-2.7. Decreased levels may cause inflammation. Increased above 3 may indicate tissue destruction and inflammation.

Bilirubin-Total-Healthy lab ranges are from 0.1-1.2. Low levels of Bilirubin are nothing to be concerned about but elevated levels could mean spleen and liver issue. Bilirubin means any form of a yellowish pigment made in the liver when red blood cells are broken down and normally excreted with the bile.

Alkaline Phosphates-Healthy lab ranges are from 44-147. Low levels can be a deficiency of zinc and vitamin D which you should use Progesterone. Increased levels can be bone loss, liver issue, and gastro inflammation.

AST-Healthy lab ranges are from 10-30. This blood test is used to check for tissue dysfunction, liver damage, and cardiac stress. Low levels ranges below 10 means your liver is working perfectly. (Possible alcoholism)

ALT-Healthy lab ranges are from 0-30. Low lab ranges you are in good health. Elevated above 30 look for liver dysfunction, viruses such as hepatitis, MONO, EBV, CMV.

CBC with Differential



WBC-Healthy lab ranges are from 5-8. Decreased is chronic, viral, or bacterial infection. Increased levels may be an active bacterial infection.

Neutrophils-Healthy lab ranges 40-61. Increased levels indicate an active acute infection. Decreased levels indicate chronic infection.

Lymphocytes-Healthy lab ranges 21-49. Increased levels indicate an active acute infection. Decreased levels indicate chronic infection.

Monocytes-Healthy lab ranges are from 0-9. Increased level indicate inflammation and recovery from an infection.

Eosinophils-Healthy lab ranges are from 1-3. Elevated level indicate allergies/sensitives, parasites, and possible asthma. Decreased levels adrenal hyperfunction.

Basophils-Healthy lab ranges are from 0-1. Increased indicates inflammation and parasites.

Platelets-Healthy lab ranges are from 140-415. Increased levels indicate free radical damage. Decreased levels are immune dysfunction.

Serum Iron-Healthy ranges are from 50-100. Increased levels show liver dysfunction or hemochromatosis. Decreased levels show iron anemia somewhere there is heavy bleeding or free radical pathology.

CBC with Differential Continued

Total Iron Binding Capacity(TIBC)-Healthy ranges are from 250-450.
(See above Serum Iron)

Ferritin-Is a measure of how much iron you have stored in the body.

RBC-Healthy ranges are from 3.90-5.00. Increased levels causes clotting, respiratory distress, and hypertension. Decreased levels are B12 & B6 deficiency, anemia, liver and kidney dysfunctions.

Hemoglobin(HGB)-Healthy ranges are from 13.2-15.8. Often used to measure iron in the blood.

Hematocrit(HCT)-Healthy ranges are from 37-48. See iron and red blood count.

Mean Corpuscular Volume(MCV)-Healthy ranges are from 82.0-89.9. Increased levels look for B12, folic acid, and anemia. See red blood count.

Mean Corpuscular Hemoglobin(MCH)-Healthy ranges are from 27.0-31.9. Increased levels look for B12, folic acid, and anemia. Decreased is iron anemia and internal bleeding.

Red Cell Size Distribution Width (RDW)-Healthy ranges are from 0-13. Increased is a need for B12 and above 13 is anemia.

Thyroid Panel

Thyroid stimulating hormone(TSH)-Healthy lab ranges are from .50-2.0. Above the ranges can indicate hypothyroidism leading to fatigue, hair loss, weight gain, goiter, and Hashimotos. Below lab ranges can indicate hyperthyroidism this condition is extremely dangerous is can cause anxiety, elevated blood pressure, rapid pulse, demineralization of the body and Graves. Remember TSH is produced in the pituitary.

Free T4-Healthy lab ranges are from .9-1.95. Free means unbound and the number 4 represents how many molecules of iodine is needed for the thyroid to function properly. T4 is produced in response to TSH. Optimal lab ranges should be in the upper 75% percentile of lab ranges.

Free T3-Healthy lab ranges are from 2.4-5.5. T3 is the active form of thyroid hormone and it is converted from T4. T3 produces energy as needed for the body to function properly. Optimal lab ranges should be in the upper 75% percentile of lab ranges.

Reverse T3-Healthy lab ranges are from 10-24. Increased levels can lead to a cortisol steal. The body is under stress and needs more cortisol.

Thyroid Panel Continued

Thyroid antibodies-Low antibodies on your test indicates no autoimmune condition. Elevated levels indicate a possible autoimmune condition(Graves & Hashimotos). Use diet the mineral Selenium to resolve this issue.

Parathyroid(PTH)-Healthy lab ranges are from 8-24. Increased levels mean that you have parathyroid disease and need to have it looked at immediately because it is responsible for controlling the calcium in your blood and body.

Vitamin D-Healthy lab ranges are from 50-125. Increased lab ranges can cause heart palpitations and is called vitamin toxicity. This can also lead to high levels of calcium, blood pressure, and bone loss. This is a fat soluble vitamin. Decreased levels can lead to low immune function, mood disorder, irregular sleep patterns, and weak bones and teeth. D3 is more effective to the body and less toxic, you should take with a meal.

Hormone Panel



Cortisol-Healthy lab ranges are from 10-15 between 7:30-8:00a.m. Increased lab ranges look for overactive adrenal glands symptoms of this are sleep disturbance, appetite control, hair loss, and type II diabetes. Decreased levels may indicate chronic fatigue, low blood pressure, hypoglycemia, and low adrenal function. Cortisol is produced in the cortex of the adrenal glands.

DHEA-S Healthy lab ranges are from 145-400(depending on age). DHEA-S is the unbound version. DHEA begins to drop in your early 40's which can leads to weight gain, fatigue and perimenopause. DHEA is also produced in the cortex of the adrenal glands.
(See above for symptoms). Drop off of this hormone can cause accelerated aging!

Estrogen(blood levels depends on persons age, mensural cycle, and menopause)

E1 less then 20 your at risk for osteoporosis and memory problems.

E2 this is the most active form of estrogen. less then 20 you might have symptoms of hot flashes, osteoporosis, and loss of memory.

E3 least active form of estrogen. Its best dosed in a vaginal cream form. Less then 10 may indicate hot flashes, osteoporosis, and dry eyes and vagina, painful sex and leaky bladder.

Hormone Panel Continued



Progesterone-Healthy lab ranges are from 5-20. If measured during the second half of the cycle. Good for bone density, weight loss, natural diuretic, and a natural antidepressant.

Pregnenolone-Healthy lab ranges are from 25-200. Pregnenolone is produced in the adrenal glands. All hormones are made from Pregnenolone. When these levels are low you are in a state of accelerated aging, memory loss, and excess cortisol. Also can cause depression, fatigue, arthritis.

Sex Hormone-Binding Globulin(SHBG)-Healthy lab ranges for women are 18-144 and men from 10-57. This protein produced by the liver is in reaction to unbound hormone circulating in the blood. It can reduce the amount of bioavailable estrogen, testosterone, DHEA, and thyroid.

Free Testosterone-Healthy ranges are from 195-750. Women need testosterone for skin, bone density, and sex drive. For women, elevated levels can cause oily skin, acne, type II diabetes, male pattern baldness, and outburst of anger. Men need it for erectile function, memory, heart health, energy, and weight loss.

Progesterone, Estrogen, & Testosterone are all made in the ovaries.

After menopause these hormones should be made in the adrenal glands. (If their strong enough)

info@whysuffer.net
248-652-4160



- ▶ For more information please visit our website www.whysuffer.net or our Facebook page at Advanced Nutritional Solutions.
- ▶ If you would like to schedule an appointment call (248)652-4160 or email our office info@whysuffer.net

Begin your adventure to better health