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Male and Female Testing Panels

The Male and Female Testing Panels are a terrific place to begin to proactively take charge of your health.

These panels are comprised of the most requested tests, which also happen to be the best and most comprehensive screening tests capable of identifying many common and not so common conditions, identifying risk factors for future disease, and offering a clinical snapshot of your current physiologic well-being.

Both panels consist of a full chemistry and complete blood count (CBC) measuring 35 different blood components, which assess cholesterol and triglyceride levels, blood glucose, iron and mineral levels, kidney and liver function, and blood cell components.

The male and female panels also test for levels of total and free testosterone, DHEA-S (an indicator of adrenal cortical function), estradiol, homocysteine, and C-reactive protein. Both homocysteine and C-reactive protein, along with levels of cholesterol lipoproteins, are powerful predictors of cardiovascular disease.

The male panel also includes the PSA (prostate specific antigen) test, which is a very sensitive marker for prostate cancer. The female panel includes a test for progesterone levels, providing information concerning female fertility, ovulation cycles, and possible hormonal tumors.

Following are snapshots of the various tests offered in the male and female test panels.

Chemistry and complete blood count (CBC) PANEL

The chemistry panel provides a wide range of information to assess cardiovascular, endocrine (glucose levels), hepato-biliary, and kidney function. The CBC panel provides information on the presence of infectious organisms, anemias, nutritional deficiencies, lymphoproliferative disorders (i.e., leukemia), and other hematological disorders.

Cardiovascular

Chemistry cardiovascular system tests include total cholesterol, HDL- and LDL-cholesterol, triglycerides, and the ratio between total cholesterol and HDL levels, which is more valuable as a predictor of heart disease than total cholesterol or HDL

levels alone. When assessed along with C-reactive protein and homocysteine blood levels, the information attained offers a very powerful indicator of cardiovascular status, including risk of future heart disease.

Endocrine

The chemistry panel also looks at fasting glucose levels in the plasma. Skewed values may indicate problems with glucose metabolism, such as hyperglycemia (diabetes mellitus) or hypoglycemia (low blood sugar, which may preempt hyperglycemia in some individuals), acidosis or ketoacidosis, and further problems with carbohydrate metabolism.

Hepato-biliary

Abnormal levels of protein/albumin/globulin, albumin/globulin ratio, bilirubin, alkaline phosphatase, lactic dehydrogenase (LDH), AST (SGOT), ALT (SGPT), iron, cholesterol, and cholesterol lipoproteins are indications of potential liver/biliary problems. These may include liver damage induced by alcohol or drug use, liver cancer, or obstruction of the bile duct, among others. Together, ALT and AST allow for differential diagnosis of disorders associated with the hepato-biliary system and the pancreas. High levels of alkaline phosphatase may also indicate abnormally high levels of vitamin D.

Kidney

Kidney function may be assessed by evaluating blood levels of the following: blood urea nitrogen (BUN), uric acid, creatinine, BUN/creatinine ratio, sodium, potassium, and chloride ions. BUN measures the amount of urea nitrogen (a breakdown product of protein metabolism) in the blood. Most diseases involving the renal system affect urea excretion by the kidneys and will elevate BUN levels. Creatinine, a breakdown product of creatine metabolism (creatinine is an important constituent of muscle), is excreted by the kidneys—abnormal levels may indicate renal failure or dehydration (elevated levels) or myasthenia gravis or late-stage muscular dystrophy (decreased levels). The ratio between BUN and creatinine may help determine the reason behind decreased kidney function (such as dehydration). Sodium, potassium, and chloride ion levels assist in the evaluation of hydration status and electrolyte balance. Low levels of potassium may indicate acute renal failure.

Hematological abnormalities and infection

Complete blood counts include red blood cells (RBCs) and white blood cells (WBCs) and their components: hematocrit, hemoglobin levels, and platelet counts.

RBC, hematocrit, and hemoglobin

Abnormally low RBC levels may indicate iron, folate, and vitamin B6 and B12 deficiencies. Low hemoglobin or hematocrit levels may indicate anemia; high hematocrit values may suggest dehydration. Abnormal distribution of the RBC width (RDW) compared with the mean corpuscular hemoglobin volume (hematocrit divided by RBC count) may detect such problems as aplastic anemia, thalassemia, anemias, and deficiencies of iron, folate, and vitamin B12.

Platelets

Platelets are an essential part of the coagulation (clotting) cascade and normal levels are necessary to maintain hemostasis. Decreased platelet counts may be seen in patients undergoing chemotherapy, and in hemolytic anemia, leukemia, and other disorders that diminish clotting ability.

WBCs and their components (lymphocytes, monocytes, neutrophils, eosinophils, and basophils)

Increased levels of all types of WBCs in the blood are usually associated with bacterial, viral, parasitic, or protozoal infections. Neutrophils, which are the first WBCs to respond to infection, often indicate infection or emotional stress (increased levels)

or chronic infection, bone marrow depression, or iron, folic acid, or vitamin B12 and B6 anemias (decreased levels). Differential assessment of the CD4/CD8 T-lymphocyte ratio (a separate test) may confer important information concerning immune status, especially in patients who are immune-suppressed (i.e., HIV/ AIDS). The presence of eosinophils in the blood is a good indication of parasitic or fungal infection, or a response to allergy. The number of monocytes in the blood is often increased (very high levels) in patients with leukemias and Hodgkin's or non-Hodgkin's lymphoma.