Parkway
Laboratories

About Your Laboratory Tests

The People Who Care

At Parkway Laboratories, we don't just focus on the patient's lab result – we take care of the person like family.

We have an experienced laboratory team and well-equipped laboratories, including a reference laboratory that serves inpatient and outpatient needs island-wide.

As part of the IHH Healthcare Group, Parkway Laboratories provides you with quality care and access to IHH's fully integrated medical services across the entire healthcare spectrum. This includes hospitals, primary care GP clinics and executive health screening services, as well as ancillary services such as radiology.

About Your Laboratory Tests

This description aims to provide patients with some useful information on the tests which may be included as part of their health screening. The tests are explained briefly.

Because reference ranges are typically defined as the range of values of the median 95% of the healthy population, it is unlikely that a given specimen, even from a healthy individual, will show "normal" values for all tests. All results should be correlated with patient's history and clinical findings.

Therefore, your physician is the best person to interpret your laboratory results. Always consult your physician.

Renal Profile

Electrolytes (sodium, potassium, chloride and bicarbonate)

The electrolyte balance in the body is dependent on food and fluid intake, and excretion by the kidney. Abnormal results can be found in some physiological conditions affecting intake and output, such as dehydration and severe diarrhoea. Kidney dysfunction may also result in abnormal electrolyte levels. Medication for hypertension and heart diseases may also affect electrolytes levels.

Sodium

Sodium is present in all body fluids and is vital to normal body function, including nerve and muscle function. When the level of sodium in blood changes, the water content in the body also changes. These changes can be associated with too little fluid (dehydration) or with too much fluid (edema).

May be ordered...as part of an electrolytes panel or metabolic panel during a routine health screening or when you are being monitored or evaluated for an acute or chronic illness such as high blood pressure, heart failure, and liver and kidney disease. Also used for assessment and monitoring of patients receiving intravenous fluids.

Potassium

Potassium is vital to cell metabolism. It helps transport nutrients into cells and removes waste products out of cells. It is also important in muscle function, helping to transmit messages between nerves and muscles.

May be ordered...as part of a routine health screening panel or for testing when you have kidney disease, high blood pressure, muscle weakness, irregular heartbeat or a condition treated with diuretics or heart medications. Also used for monitoring patients receiving dialysis, diuretic therapy, or intravenous fluids.

Chloride

Chloride works with other electrolytes to help regulate the amount of fluid in the body and maintain the acid-base (pH) balance.

May be ordered...as part of a routine health screening panel. Chloride and other electrolyte tests may be used to help diagnose the cause of signs and symptoms such as prolonged vomiting, diarrhoea, weakness and difficulty breathing.

Bicarbonate

Bicarbonate is used by the body to help maintain the body's acid-base (pH) balance.

May be ordered...as part of a routine health screening panel or to detect diseases or conditions that affect the lungs, kidneys, metabolism or breathing which have the potential to cause an acid base (pH) imbalance.

Urea

Blood urea is the end product of protein breakdown and is excreted from the body by the kidneys.

May be ordered...as part of a routine health screening panel. Elevated levels of urea can be found in persons on a high protein diet or after a long period of fasting. High levels of urea can also be found in renal diseases.

Creatinine

Creatinine is a by-product of muscle function and is related to the muscle mass of a person.

May be ordered...as part of a metabolic panel when you have a routine health screening or when you have signs and symptoms that may be due to kidney disease and/or worsened by kidney dysfunction, at intervals to monitor treatment for kidney disease and/or be worsened by kidney dysfunction; at intervals to monitor treatment for kidney disease or kidney function while on certain medications.

Test of Carbohydrate Metabolism

Glucose

Glucose in sufficient levels is necessary for normal body function.

May be ordered...to determine if your blood glucose level is within a healthy range; to screen for and diagnose diabetes and prediabetes and to monitor for high or low blood glucose.

Haemoglobin A1c

Haemoglobin A1c, also called glycated haemoglobin, is haemoglobin with glucose attached. The test evaluates the average amount of glucose in the blood over the past 3 months by measuring the percentage of glycated haemoglobin in the blood. Haemoglobin is an oxygen-transporting protein found inside red blood cells. There are several types of normal haemoglobin, but the predominant form is haemoglobin A. As glucose circulates in the blood, some of it spontaneously binds to haemoglobin A.

The higher the level of glucose in the blood, the more glycated haemoglobin is formed. Once the glucose binds to the haemoglobin, it remains there for the life of the red blood cell.

May be ordered...to check if your blood glucose levels have been well-controlled over time.

Liver Function Test

The liver is crucial for both food digestion and detoxifying your body of harmful toxins. Liver function tests check the levels of certain enzymes and proteins in your blood. Levels that are higher or lower than usual can mean liver problems. The pattern and degree of elevation of these tests along with the overall clinical picture can provide hints to the underlying cause of these problems.

Total Bilirubin

Bilirubin is a waste product from the breakdown of haemoglobin. It is formed in the liver and excreted in the bile. High levels of bilirubin in the blood will cause jaundice resulting in a yellowness of the skin and the white part of the eyes. High levels are associated with liver disease and haemolytic anaemias.

Total Protein (TP)

Total protein is comprised of albumin and globulin, produced mainly by the liver.
Common causes of high TP levels include chronic liver disease, dehydration, chronic infection and alcoholism. Low levels may be caused by severe liver disease, malnutrition and chronic renal failure.

Albumin

Albumin acts as a transport protein for some drugs and a few other substances. Decreased levels may result in liver disease, starvation and protein loss.

Globulin

Globulin forms the main transport system for various substances as well as a constituent of the antibody system that fights infections. High levels could be due to liver disease, infections, chronic illness and sometimes multiple myeloma. Low levels are usually linked to malnutrition.

A/G Ratio (Albumin/Globulin)

This ratio is used to evaluate the state of liver as well as the kidney. A low ratio is indicative of liver damage.

SGOT (AST)

SGOT is an enzyme present in the cells of many organs such as the liver, heart, skeletal muscle and blood cells. High levels of SGOT in the blood are often associated with episodes of cell destruction in organs such as acute myocardial infarction (heart attack) and hepatitis.

SGPT (ALT)

SGPT is an enzyme usually found in the liver. Damage to liver cells causes large amounts of the enzyme to be released into the blood stream.

Alkaline Phosphatase (ALP)

ALP is an enzyme present in the bone and liver. High concentrations are found in children with growing bones. In adults, high levels are often seen in bone diseases and liver disorders.

Gamma GT (GGT)

This enzyme is present in the liver as well as other tissues. Damage to liver cells causes large amounts of the enzyme to be released into the blood stream. Very high levels are seen in alcoholic cirrhosis and other serious liver disorders.

May be ordered... as part of a regular health screening when no risk factors for liver disease are present. May be done more frequently and at regular intervals when risk factors for liver disease are present, when prior results showed high risk levels, and/or when undergoing treatment for unhealthy enzyme and proteins levels.

Lipid Profile

Total Cholesterol

Monitoring and maintaining healthy levels of cholesterol are important for staying healthy. The body produces the cholesterol needed to work properly, but the source for some cholesterol is diet. If an individual has an inherited predisposition for high cholesterol levels or eats too much of the foods that are high in saturated fats and trans unsaturated fats, then the level of cholesterol in that person's blood may increase and have a negative impact on the person's health. It gets deposited on the walls of blood vessels causing them to be narrowed and eventually blocked, leading to an increased risk of stroke or heart attack.

Cholesterol takes several forms in the body. The two most significant forms are high density lipoprotein (HDL) and low density lipoprotein (LDL).

HDL - Cholesterol

This is referred to as the "Good Cholesterol". It carries cholesterol back to the liver where excess cholesterol is broken down and excreted from the body. Hence, it serves as a protective function against the development of coronary heart disease (CHD). In this context, a high level of HDL-cholesterol is desirable.

LDL - Cholesterol

This is referred to as the "Bad Cholesterol". It transports cholesterol from the liver depositing the cholesterol on the walls of the blood vessels along the way. Hence, an increase in LDL-cholesterol is associated with an increased risk of CHD.

Triglycerides

Triglycerides are reserve fuels in the body and are stored in fatty tissues. A diet rich in starchy foods, sugar and oily food can lead to high levels of triglycerides in the blood. Elevated levels of triglycerides are associated with obesity and risk of CHD.

May be ordered...as part of a regular health screening when no risk factors for heart disease are present. May be done more frequently and at regular intervals when risk factors for heart disease are present, when prior results showed high risk levels, and/or when undergoing treatment for unhealthy lipid levels.

Coronary Panel

This is a group of tests that have been proven to indicate a person's chance of having a cardiovascular event such as a heart attack or stroke when considered together with other health factors such as a person's personal health and family history.

Apolipoprotein A

Apolipoprotein A is a protein that has specific roles in the transportation and metabolism of lipids and is the main protein component in high-density lipoprotein (HDL, the "Good Cholesterol"). This test measures the amount of Apolipoprotein A in the blood. Deficiencies in Apolipoprotein A correlate with an increased risk of developing cardiovascular disease.

Apolipoprotein A levels provide more information to help evaluate cardiovascular disease risk, especially when HDL levels are low.

Apolipoprotein B

Apolipoprotein B is a protein involved in the metabolism of lipids and is the main protein constituent of lipoproteins such as low-density lipoprotein (LDL, "Bad Cholesterol"). This test measures the amount of Apolipoprotein B in the blood. An increase in Apolipoprotein B is associated with an increased risk of cardiovascular disease.

C-Reactive Protein, High Sensitive (hs-CRP)

C-reactive protein is a protein that increases in the blood with inflammation and infection as well as following a heart attack, surgery, or trauma. A persistent low level of inflammation plays a major role in atherosclerosis, the narrowing of blood vessels due to a build-up of cholesterol and other lipids, which is often associated with cardiovascular disease. The hs-CRP test measures lower levels of the protein to detect diseases that cause significant inflammation and is used to evaluate individuals for risk of cardiovascular disease.

Thyroid Profile

Your thyroid gland produces hormones that travel through the blood to every part of your body. These hormones regulate your metabolism and production of protein. The gland also makes calcitonin, a hormone that regulates calcium levels in the blood.

Total Thyroxine (T4) And Free Thyroxine (Free T4)

A thyroxine test helps diagnose disorders of the thyroid. Thyroxine is a type of thyroid hormone. This test measures the level of thyroxine in your blood. Too much or too little thyroxine can indicate thyroid disease.

The thyroxine (T4) hormone comes in two forms:
Bound T4: Almost all (99.95%) of the T4 found in blood is bound to proteins.
Free T4: The 0.05% of unbound T4 can be measured as Free T4 and is the biologically active form of the hormone.

A total T4 test measures both Bound T4 and Free T4 while the Free T4 test measures the Free T4 form alone.

May be ordered...as part of a regular health screening or when you have signs and symptoms of thyroid disease and/or an enlarged thyroid or when you have a thyroid nodule or disorder, or an abnormal result on a Thyroid Stimulating Hormone test.

Triiodothyronine (T3)

Triiodothyronine is a type of thyroid hormone. This test measures the level of Triiodothyronine in your blood. Too much or too little Triiodothyronine can indicate thyroid disease.

May be ordered...as part of a regular health screening or to help evaluate thyroid gland function; to diagnose thyroid disease and determine the cause; to monitor effectiveness of treatment of a thyroid disorder.

Thyroid Stimulating Hormone (TSH)

Thyroid Stimulating Hormone stimulates the thyroid by binding to the TSH receptor to release the hormones thyroxine and triiodothyronine into the blood.

May be ordered...as part of a regular health screening or when you have signs and symptoms of hyperthyroidism or hypothyroidism and or/an enlarged thyroid or when you have a thyroid nodule, or when you are being treated for a thyroid disorder.

Hepatitis B Screen

Hepatitis B is an infection of the liver caused by the Hepatitis B virus. Hepatitis B blood tests detect viral proteins (antigens), the antibodies that are produced in response to an infection, or detect or evaluate the genetic material of the virus. The pattern of test results can identify if a person has a current active infection, was exposed to the virus in the past, or has immunity as a result of vaccination.

Hepatitis B Surface Antibody (HBsAg)

The presence of HBsAg is indicative of acute or chronic Hepatitis B infection. Approximately 5% to 10% of adults with acute Hepatitis B infection develop a chronic HBsAg carrier state.

Hepatitis B Surface Antigen (HBsAb)

A positive HBsAb result indicates a full recovery from exposure to a Hepatitis B infection. It could also be due to immunisation against the virus.

After immunisation, a booster dose is recommended should the level fall below a certain reading to ensure protection against the virus.

May be ordered...as part of a regular health screening or when you have signs and symptoms associated with acute hepatitis to determine if they are due to infection. May also be done as follow up when routine tests such as ALT and/or AST are elevated or to check if you have been vaccinated before.

Hepatitis C Screen

Hepatitis C is a virus that causes an infection of the liver that is characterised by liver inflammation and damage. Hepatitis C tests are a group of tests that are performed to detect, diagnose, and monitor the treatment of a hepatitis C viral infection. Many of those infected have no symptoms and are not aware of the condition. The chronic infection may simmer quietly for a decade or two before causing sufficient liver damage to affect liver function.

May be ordered...as part of a regular health screening for people with risk factors or when you have signs and symptoms associated with acute hepatitis to determine if they are due to infection.

Sexually Transmitted Disease Screen

Syphilis Venereal Disease Screening Test VD (RPR)

The VD (RPR) test is a screening test for syphilis infection. The test will be reactive (positive) after about two to four weeks following infection.

Although the VD (RPR) test is a sensitive test, it is not very specific for syphilis infection, with occurrences of false positives. Hence, if the VD (RPR) test is reactive, the Treponema Pallidum Particle Agglutination Test (TPPA) is performed to aid in the diagnosis of syphilis infection.

May be ordered...as part of a regular health screening or when you have symptoms of a syphilis infection, when you are at risk of being exposed to syphilis, such as when you have another STD or HIV infection, have a sexual partner diagnosed with syphilis, or have engaged in high-risk sexual activity, or when you are pregnant.

Haematology

Haemoglobin (Hb), Red Blood Cell (RBC)

The RBC carries Hb, which is essential for the transport of oxygenated blood from the lungs to the tissues. A state of anaemia is said to exist if the Hb level falls below the reference range. This can be caused by acute/chronic loss of blood through bleeding, a diet which is poor in iron, decreased production of RBCs by the bone marrow and, defective synthesis of haemoglobin due to an inherited disorder of the blood such as thalassaemia.

Haematocrit

The blood specimen is passed through a cell analyser and the percentage of cells to plasma is calculated by direct measurement. It is a useful test for the assessment of haematological disorders.

Red Cell Indices (MCV, MCH, MCHC)

The MCV (mean cell volume) measures the average volume of a red blood cell in an individual's blood. MCH (mean cell haemoglobin) is an index that measures the average content of Hb in a RBC. MCHC (mean cell haemoglobin concentration) is an index that expresses the content of Hb in the RBC relative to the size of the cells. Red cell indices are useful indicators in the classification of anaemia.

Red Cell Distribution Width (RDW)

The cell distribution width is a numerical expression, which correlates with the degree of anisocytosis (variation in volume of the population of RBCs). It is a useful indicator to differentiate thalassaemia (value generally within the reference ranges) from iron deficiency anaemia (value generally greater than the reference ranges).

However, there are differences in opinion on the usefulness in monitoring the progress of patients on iron therapy for iron deficiency or megaloblastic anaemia. As the patient responds to treatment, the RDW would eventually fall within the reference ranges.

Platelet

Platelets are one of the cellular components of the blood. It plays an important role in the clotting of blood. Defective production of platelets or a reduction in their numbers would result in prolonged bleeding.

White Blood Cell (WBC), Differential Count

The differential count (DC) separates the WBC into five main types, each of which has its own special function. The Neutrophils are increased in acute bacterial infections. The Lymphocytes migrate freely between the lymph glands and blood.

They enter the blood stream via the thoracic duct. Antigenic stimulation (viral infection) produces an increase in the number of lymphocytes in the circulation. The Monocytes help to determine the nature and course of infection. The Eosinophils are increased in allergic conditions as well as in parasitic infections. The Basophils are increased as a response to hypersensitivity and allergic stimulation.

Erythrocytes Sedimentation Rate (ESR)

The ESR measures the fall in the level of RBC against plasma in a special fine tube held vertically for one hour. It is not a specific test for any particular disease but serves as an indicator for any inflammatory process.

May be ordered...as part of a regular health screening or when you have signs and symptoms that may be related to a condition that affects blood cells; at regular intervals to monitor treatment or disease status or when you are receiving treatment known to affect blood cells.

Urinalysis

pH

This measures the amount of free hydrogen ions excreted by the body. A pH of 7.0 is neutral. A pH of below 7.0 is said to be acidic and a pH of greater than 7.0 is said to be alkaline. The pH of a person's urine varies with diet, medication, kidney disease and metabolic disease such as diabetes mellitus. Normal kidneys are capable of producing urine that can vary from pH of 4.5 to slightly more than 8.0.

Specific Gravity (SG)

The SG of the urine gives an indication of the amount of dissolved solids in the fluid. Thus, SG is high in diabetes mellitus due to the sugar in the urine. Physiologically, dehydration (reduced fluid intake) can also result in a high SG. SG is a convenient way of assessing the concentrating and diluting function of the kidney.

Urine Protein

The presence of protein in the urine is an indication of renal disease as damage to the glomeruli (tubules in the kidney) increases their permeability and allows plasma protein to escape into the urine. A trace amount of protein may be present after strenuous exercise or severe emotional stress and is of no significance.

Urine Glucose (Sugar)

Glucose is not present in the urine of a healthy person. Routine screening of a urine sample for glucose helps in the detection of diabetes mellitus in patients who would otherwise have no symptoms of the disease.

Urine Ketones

Ketones formed in the liver are normally completely metabolised. Altered carbohydrate metabolism causes ketones to be detected in the urine. Ketones are usually present in urine of those who are on prolonged fasting or suffering from acute diabetes mellitus.

Urine Bilirubin

Bilirubin in the urine indicates the presence of liver disease or obstruction of the bile duct. Since bilirubin may often appear in the urine before other signs of liver dysfunction are apparent, it is a useful diagnostic test for liver disease.

Urine Blood (Red Blood Cell)

RBC is detected in the urine as haemoglobin from lysed and intact RBC. The presence of RBC gives an indication of urinary tract and kidney diseases. In females, menstrual blood can sometimes contaminate the urine sample.

Urine Nitrite

Certain bacteria, when in high concentration, in urine metabolise nitrates to nitrite in urine. Hence, a positive nitrite test indicates significant amount of bacteria in the urine. This may be indicative of a urinary tract infection especially if the urine sample is a clean-voided midstream sample collected in a sterile container

Urine Urobilinogen

Bilirubin, which is excreted by the liver into the bile, is converted by bacterial action in the intestinal tract to urobilinogen. Small amounts of the urobilinogen are normally excreted in the urine. Excretion is increased in any condition that gives rise to increased production of bilirubin, such as excessive breakdown of RBCs as in hemolytic anaemias or liver diseases such as hepatitis. A test for urinary urobilinogen serves as a useful guide in detecting and differentiating liver disease, haemolytic disease and biliary obstruction.

Urine Microscopy Red Blood Cell (RBC)

Normal urine may contain up to three RBCs per high power field. It should be noted that in urine microscopy, only intact RBCs are detected. Excess RBCs in urine may indicate a variety of renal and systemic diseases, including trauma to the kidney and presence of kidney stones. Excess RBCs in urine may also be found after strenuous exercises. In females, menstrual blood can sometimes contaminate the urine sample.

White Blood Cell (WBC)

Normal urine may contain up to five WBCs per high power field. The presence of a large number of WBCs usually indicates bacterial infection in the urinary tract.

Epithelial Cells

Squamous epithelial cells appear frequently in normal urine. A large number of renal epithelial cells may indicate active degeneration of the renal tubules.

Casts

Casts are formed when protein accumulates and is deposited in the kidney tubules and is washed into the urine. Casts are named according to the cells contained in them. For example, RBC cast, WBC cast. The presence of a large number of any type of casts in the urine usually accompanies an increase in protein excretion and indicates existing renal disease. An occasional cast may be found in urine of normal people especially after exercise.

Crystals

A variety of crystals may appear in the urine. These can be identified by their specific appearances and solubility characteristics. Most crystals are of little diagnostic significance while some, however, indicate pathology.

Phosphate crystals are common in alkaline urine. Oxalate crystals are found in acid urine. Uric acid crystals usually occur in high uric acid excretors and in some normal people.

May be ordered...as part of a regular health screening or is admitted to the hospital/will undergo surgery or has a pregnancy checkup. It will also likely be ordered when you have symptoms of a urinary tract infection or other urinary system problems such as kidney disease. It may also be ordered at regular intervals when monitoring certain conditions over time.

Stool Analysis

Stool FEME

Stool FEME test screens for the presence of eggs (ova) of parasitic worms. For example, hookworms and roundworms, cysts of protozoa such as giardia lamblia and amoeba and also the presence of red blood cells and white blood cells in the stool.

May be ordered...as part of a regular health screening or to determine whether you have an infection of your digestive tract due to the presence of disease-causing (pathogenic) bacteria.

Stool Occult Blood (OB)

Screening of the stool for OB is useful for the detection of suspected bleeding in the gastrointestinal tract (GIT). It is necessary to abstain from certain food such as red meat, cauliflower and broccoli three days before the test to prevent a false positive result. The presence of haemorrhoids or piles may also give a false positive result.

May be ordered...as part of a regular health screening or when someone has unexplained anaemia that might be caused by bleeding in the digestive tract.

EBV Serology Tests

Epstein-Barr virus (EBV) is a virus that typically causes a very common infection that results in mild to moderate illness. The virus is very contagious and easily transmitted through close contact. Once infected, the virus never completely goes away. Latent EBV remains in the person's body for the rest of that person's life and may reactivate but usually causes few problems unless the person's immune system is significantly weakened.

EBV is a major factor in several diseases including infectious mononucleosis, Burkitt's lymphoma and nasopharyngeal carcinoma. Several tests for different types and classes of EBV antibodies are available. The antibodies are proteins produced by the body in an immune response to several different EBV antigens. During a primary EBV infection, the level of each of these EBV antibodies rises and falls at various times as the infection progresses. Measurement of these antibodies in the blood can aid in diagnosis and typically provides your doctor with information about the stage of infection and whether it is a current, recent of past infection.

May be ordered...as part of a regular health screening or when someone displays symptoms associated with infectious mononucleosis, Burkitt's lymphoma and nasopharyngeal carcinoma.

Cervical Cancer

Cervical Cancer is caused by a long-lasting Human Papillomavirus (HPV) infection. HPV is a common virus and everyone will get it at some point in time. There are over 100 strains, but only around 13 strains can lead to cervical cancer. As HPV is a common virus, our bodies are able to clear the infection on its own. However, high-risk HPV strains such as HPV 16 and 18 may cause a persistent infection, which can lead to cervical cancer. It is a slow-progressing condition that usually takes up to 15 years to develop. It can be prevented via vaccination and cured when detected early with regular screening.

Pap Test

The Pap test looks for abnormal changes in the cervical cells. In Singapore, it is recommended for women between 25-29 years old and have ever had sex. At this age, most infections can be easily cleared by one's own body and doing a HPV DNA test may lead to some unnecessary follow-up tests.

HPV DNA Test

HPV DNA test will check if the cells collected from your cervix has the DNA (genetic material) of the high risk cancer-causing HPV strains (e.g. 16, 18). This is a more effective test compared to a Pap test. In a Pap test, your cells may appear normal at the point of testing. Even so, high risk HPV strains may be present and the risk of your cells turning abnormal in future is higher. In Singapore, it is recommended for women aged 30 years old and above and have ever had sex.

Immunology

Rubella Test

Rubella is a virus that causes an infection that is usually mild and characterised by fever and rash that last about 2 to 3 days. The infection is highly contagious but is preventable with a vaccine.

The primary concern with rubella infection is when a pregnant woman contracts it for the first time during the first three months of her pregnancy. If the unborn baby is infected, it can cause miscarriage, stillbirth, or congenital rubella syndrome (CRS), a group of serious birth defects that will permanently affect the child.

A rubella test detects and measures rubella antibodies in the blood that are produced by the body's immune system in response to immunisation or an infection by the rubella virus.

May be ordered...prior to or at the beginning of pregnancy to verify immunity; when a pregnant woman has symptoms of rubella, when a newborn shows signs of abnormal development or birth defects that may be caused by an in utero infection; whenever there is a need to verify a recent rubella infection or to verify immunity.

Measles and Mumps Tests

Measles and Mumps are viruses that cause infections that usually resolve within several days but can sometimes cause serious complications in certain cases. Both are preventable through vaccination.

May be ordered...when you have symptoms that may be due to a measles or mumps infection, when it is necessary or desired to determine measles or mumps immunity.

HIV Tests

Human immunodeficiency virus (HIV) is the cause of AIDS (Acquired Immunodeficiency Syndrome). HIV screening tests detect the HIV antigen and/or HIV antibodies produced in response to an HIV infection in the blood. These do not protect the person and only serve as markers of infection.

Combination HIV antibody and HIV antigen test

It detects the antigen called p24 plus antibodies to HIV and HIV-2. Testing for p24 allows for detection of early infections, before HIV antibody is produced. A few weeks after exposure, antibodies to HIV are produced in response to the infection and remain detectable in the blood thereafter, making the antibody test useful for detecting infections weeks after exposure. This test can detect HIV infections in most people by 2-6 weeks after exposure.

HIV Antibody Testing

HIV antibody tests can detect infections in most people 3-12 weeks after exposure.

May be ordered...when you think you may have been exposed to the virus; before becoming pregnant or when pregnant; once a year if you are at increased risk of being exposed to the virus.

Helicobacter pylori (H. pylori) Testing

Helicobacter pylori (H. pylori) is a type of bacteria that is known to be a major cause of peptic ulcers. These are sores that develop in the lining of the esophagus, stomach, or upper section of the small intestine. H. pylori testing detects an infection of the digestive tract caused by the bacteria to help diagnose the cause of symptoms and/or ulcers. H. pylori infections of the digestive tract are very common and most people do not have any symptoms.

However, H. pylori infection increases the risk of developing ulcers, persistent stomach inflammation, and gastric (stomach) cancer. The bacteria decrease the stomach's ability to produce mucus, making the stomach prone to damage from digestive acid and peptic ulcers.

A few types of H. pylori testing are available:

Urea Breath Test

A healthcare professional will take your initial sample of your breath (baseline). Thereafter, you will be instructed to ingest a tablet containing a substance called urea and then wait for it to be digested. During this time, if H. pylori is present in your digestive tract, the bacteria will break the urea down into labelled carbon dioxide gas, which is expelled in your breath. After your second breath sample is taken, the two samples are sent to the lab for testing. If your second sample has a higher level of labeled carbon dioxide than normal, you may have H. pylori in your digestive tract.

Helicobacter Pylori, IgG Antibody

This blood test is used to evaluate if there is a presence of IgG antibody to H. pylori to aid your doctor in evaluating if you have gastrointestinal disease. A positive result does not necessarily indicate that gastrointestinal disease is present.

May be ordered...when you have clinical signs and symptoms suggestive of gastrointestinal disease or to determine whether treatment has cured the infection.
Chickenpox and shingles are caused by an infection with the varicella zoster virus (VZV), a member of the herpes virus family.

Varicella-Zoster Virus

Varicella-Zoster Virus(VZV) IgG

The VZV test detects antibodies produced by the immune system in response to VZV infection.

May be ordered...to diagnose an active infection or to determine if patients have developed immunity from prior infection or by vaccination.

Vitamin D

Vitamin D deficiency is associated with soft and weak bones, cardiovascular disease, cancer, multiple sclerosis and rheumatoid arthritis[1]. In Singapore, a study showed that between 30-85% of men and women from different ethnic groups experienced low levels of Vitamin D[2]. Those who have a Vitamin D deficiency may experience no symptoms. Others may experience symptoms such as weakened muscles or bone pain. Symptoms can be subtle and go undetected[3].

25-hydroxyvitamin D

This test measures the level of Vitamin D in the blood. Two forms of Vitamin D can be measured – 25-hydroxyvitamin D and 1,25-dihydroxyvitamin D. Because of its long half-life and higher concentration, 25-hydroxyvitamin D is commonly measured to assess and monitor vitamin D status in individuals.

May be ordered...for routine health screening or when you are at high risk of deficiency or a healthcare practitioner suspects that you might have a vitamin D deficiency.

Vitamin B12

Vitamin B12 works with Vitamin C to help the body make new proteins. A deficiency in Vitamin B12 can lead to macrocytic anaemia. B12 is also important for nerve health and a deficiency can lead to varying degrees of nerve damage that can cause tingling and numbness in the affected person's hands and feet.

May be ordered...to help diagnose one cause of anaemia or neuropathy; to evaluate nutritional status in some people; to monitor the effectiveness of treatment for vitamin B12.

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AYLT 05/2024

水痘和带状疱疹检测

水痘和带状疱疹是由疱疹病毒家族成员水痘带状疱疹病毒 (VZV) 感染引起的。

水痘 – 带状疱疹病毒 (VZV) 免疫球蛋白

VZV 测试可检测免疫系统对 VZV 感染产生的抗体。这项检测可以诊断活性感染，或用以确定患者是否因以前感染，或接种疫苗而获得免疫力。

维生素D

缺乏维生素D会导致骨骼软弱无力、心血管疾病、癌症、多发性硬化症和类风湿关节炎[1]。新加坡的一项研究表明，来自不同种族的男性和女性中，30-85%的人维生素D2含量较低[2]。 缺乏维生素D的人可能没有任何症状。有些人可能会出现肌肉无力或骨痛等症状。症状可能很轻微，难以察[3]。

25-羟基维生素D

这项测试测量血液中维生素D的水平。可以测量两种形式的维生素-25-羟基维生素D和1,25-二羟基维生素D。由于25-羟基维生素D的半衰期较长且浓度较高，因此通常测量25-羟基维生素D来评估和监测个体的维生素D的状况。
可以作为常规健康检测，或当您缺乏维生素D的风险较高时，或医疗从业人员怀疑您可能缺乏维生素D时检测。

维生素B12

维生素B12与维生素C共同帮助人体产生新的蛋白质。缺乏维生素B12可能会导致巨红血球性贫血。B12对神经健康也很重要，缺乏B12可能会导致不同程度的神经损伤，导致患者手脚出现刺痛感并发麻。

这项检测可以帮助诊断贫血或神经病变的一个病因；评估人们的营养状况；监测维生素B12的治疗效果。

幽门螺旋杆菌 (H. pylori) 检测

幽门螺旋杆菌(H. pylori)是一种已知的、造成消化道溃疡的主要细菌。这些溃疡发生在食道、胃部或小肠上部。幽门螺旋杆菌检测可以检测由细菌引起的消化道感染，从而帮助诊断症状和/或溃疡的原因。消化道的幽门螺旋杆菌感染很常见，大多数人没有任何症状。但是，幽门螺旋杆菌感染会增加发生溃疡、持续性胃部炎症和胃癌的风险。细菌降低了胃产生粘液的能力，使胃易于受到消化酸和消化性溃疡的损害。

幽门螺旋杆菌检测的几种方法：

尿素呼气试验

专业医疗人员将采集您的初始呼吸样本（基准）。之后将指导您服用一种含有尿素物质的药片，然后等待它被消化。在这段时间里，如果您的消化道里含有幽门螺旋杆菌，细菌会把尿素分解成二氧化碳气体，然后呼出。在第二次采集您的呼吸样本后，将这两个样本送到实验室进行检测。如果您的第二个样本中含有的二氧化碳水平高于正常水平，那么您的消化道可能存在幽门螺旋杆菌。

幽门螺旋杆菌，IgG 抗体

这项血液检测是用来评估是否存在幽门螺旋杆菌IgG抗体，以帮助医生评估您是否患有胃肠疾病。阳性结果并不一定表明存在胃肠道疾病。

可以在出现胃肠道疾病的临床体征和症状时，或在确定感染是否已治愈时进行检测。

麻疹和腮腺炎检测

麻疹和腮腺炎是可以引起感染的病毒，通常几天内就会痊愈，但有时在某些情况下会引起严重的并发症。两者均可通过接种疫苗来预防。

可以在出现麻疹或腮腺炎感染症状时；或需要确认麻疹或腮腺炎免疫力时检测。

HIV 检测

人类免疫缺陷病毒(HIV) 是艾滋病（获得性免疫缺陷综合征）的病因。HIV检查检测在感染HIV后血液中产生的HIV抗原和/或HIV抗体。这些不能保护患者，只能作为感染的标记。

HIV抗体与HIV抗原联合检测

这项检测可以检测一种被称作p24的抗原及对抗HIV和HIV-2的抗体。检测p24可以在产生HIV抗体之前发现早期感染。暴露于HIV病毒几周后会因感染HIV而产生抗体，此后可以一直在血液中检测出该抗体，使得抗体检测有助于发现暴露数周后的感染情况。这些检测可以在暴露于HIV病毒2-6周后检测出大多数人的感染情况。

HIV抗体检测

HIV抗体检测可以检测大多数人在暴露于HIV病毒3-13周后的感染情况。

可以在当您认为您曾经暴露于病毒时检测；怀孕前或怀孕时检测；或如果您暴露于病毒的风险增加则每年检测一次。

宫颈癌

宫颈癌是由一种长期存在的人乳头瘤病毒（HPV）感染引起的。HPV是一种常见病毒，每个人都会在某个时候感染它。HPV目前有100多种菌株，但只有大约13种菌株会导致宫颈癌。由于HPV是一种常见的病毒，我们的身体能够自行清除感染。然而，高危的HPV菌株，如HPV 16和HPV 18，可能会引起持续感染，从而导致宫颈癌。这是一种进展缓慢的病症，通常需要长达15年的时间来发展。它可以通过接种疫苗预防，并在早期发现时通过定期筛查治愈。

巴氏涂片检测

巴氏涂片检测检查宫颈细胞的异常变化。在新加坡，建议25-29岁之间有过性行为的女性进行检测。 在这个年龄，大多数感染都可以很容易的由自己的身体自行清除，而进行HPV DNA检测可能会导致一些不必要的后续检测。

HPV DNA 检测

HPV　DNA检测将检查从子宫颈收集的细胞是否含有高风险致癌HPV菌株（例如16、18）的DNA。 与巴氏涂片检测相比，这是一种更有效的检测。 在巴氏涂片检测中，细胞在检测时可能看起来正常。 即便如此，高风险的HPV菌株仍然可能存在，使得未来个体细胞变得异常的风险较高。 在新加坡，建议30岁及以上且曾经发生过性行为的女性进行此项检测。

免疫学

风疹检测

风疹是一种会引起轻度感染的病毒，通常表现为持续2-3天的发热和皮疹。这种感染具有高度传染性，但是可以通过接种疫苗预防。

风疹感染的主要问题是孕妇在妊娠期的前三个月首次感染风疹。如果未出生的婴儿被感染，可能会导致流产、死胎或先天性风疹综合征（CRS），这是一组严重的先天性缺陷，会对孩子造成终生影响。

风疹检测用于检测和测量血液中的风疹抗体，这些抗体是人体免疫系统在接种疫苗或感染风疹病毒时产生的。

可以在妊娠之前或妊娠早期确认免疫力时；或当妊娠期女性出现风疹症状时；或当新生儿出现可能由子宫内感染引起的发育异常或先天性缺陷时；或任何需要验证近期风疹感染或验证免疫力时进行检测。

粪便检验

粪便 FEME

粪便FEME筛查检测是否存在寄生虫卵（ova），例如，钩虫和蛔虫、原生动物的囊肿，如蓝氏贾第鞭毛虫和阿米巴变形虫，以及粪便中存在的红细胞和白细胞。

可以作为常规健康检查的一部分，或者用于确定您的消化道是否因致病细菌的存在而受到感染。

粪便潜血 (OB)

粪便OB筛查有助于发现可疑的胃肠道出血（GIT）。在检测前三天必须戒食某些食物，如红肉、西蓝花和花椰菜，以防止出现假阳性结果。痔疮或痔疮堆的存在也可能造成假阳性结果。

可以作为常规健康检查的一部分，或在出现可能由于消化道出血导致的不明原因的贫血时检测。

EBV 血清学检测

EB病毒(EBV)是一种典型的可导致轻中度疾病的常见感染病毒。这种病毒极具传染性，很容易通过密切接触传播。一旦感染，病毒永远不会完全消失。潜伏的EBV会在人体内终生存在，并且可能会被重新激活，但除非人的免疫系统明显减弱，否则不会造成什么问题。

EBV是传染性单核细胞增多症、伯基特淋巴瘤和鼻咽癌的主要致病因素。我们提供几种针对不同类型和类别的EBV抗体的检测方法。抗体是机体在对几种不同的EBV抗原产生免疫反应的过程中产生的蛋白质。在原发性EBV感染期间，随着感染的发展，每种EBV抗体的水平在不同的时间升高和降低。测量血液中的这些抗体有助于诊断，通常可以为医生提供有关感染阶段的信息，以及是否是当前的、最近的感染。

可以作为常规健康检查的一部分，或当出现与传染性单核细胞增多症、伯基特淋巴瘤和鼻咽癌相关的症状时检测。

尿胆素原

由肝脏排泄到胆汁中的胆红素通过肠道中的细菌作用转化为尿胆素原。少量的尿胆素原通常通过尿液排出。在任何引起胆红素分泌增加的情况中，如溶血性贫血或肝炎等肝病中红细胞过度分解，排泄量都会增加。尿胆素原检测对肝病、溶血性疾病和胆道梗阻的诊断和鉴别具有重要的指导意义。

尿液显微镜检查红细胞 (RBC)

正常尿液在每个高倍显微镜下可能看到最多三个RBC。应该注意的是，在尿液显微镜检查中，仅能检测到完整的RBC。尿液中过量的RBC可能表明各种肾脏疾病和全身性疾病，包括肾损伤和肾结石。在剧烈运动后，尿液中也可能发现过量的红细胞。女性经血有时会污染尿液样本。

白细胞 (WBC)

正常尿液在每个高倍显微镜下可能看到最多五个RBC。尿液中含有大量WBC通常表明尿路细菌感染。

上皮细胞

正常尿液中常见鳞状上皮细胞。大量肾上皮细胞可能说明肾小管的活跃性退化。

铸型

当蛋白质聚集并沉积在肾小管并被冲进尿液时，就会形成铸型。铸型是根据其中包含的细胞来命名的，例如，红细胞铸型、白细胞铸型。尿液中任何类型的铸型大量出现，通常伴随着蛋白质排泄量的增加，表明存在肾脏疾病。在正常人的尿液中，特别是在运动后，偶尔会发现铸型。

晶体

尿液中可能会出现多种晶体。这些可以通过其特定的外观和溶解度特性来识别。大多数晶体几乎没有诊断意义，而有些晶体具有病理性。磷酸盐晶体在碱性尿液中很常见。在酸性尿液中发现草酸盐晶体。尿酸结晶通常发生在高尿酸排泄物和一些正常人中。

可以作为常规健康检查的一部分，或作为住院、将进行手术、或女性在妊娠期的检查。当您出现尿路感染或其他泌尿系统问题(如肾病)的症状时，也可以检测。当需要在一段时间内监测某些状况时也可以定期检测。

尿检

酸碱度

pH可以测量人体排出的游离氢离子的数量。pH值7.0为中性。 pH值低于7.0为酸性，pH值高于7.0为碱性。一个人尿液的酸碱度随饮食、药物、肾病和糖尿病等代谢性疾病而变化。正常肾脏能够产生pH值从4.5到略高于8.0的尿液。

尿比重 (SG)

尿液的SG表示液体中溶解的固体的数量。因此，由于尿中含糖，糖尿病患者的SG很高。生理上，脱水(液体摄入减少)也会导致SG含量高。SG是评价肾脏浓缩和稀释功能的一种简便方法。

尿蛋白

尿液中存在蛋白质是肾病的一种迹象，因为肾小球(肾小管)的损害会增加其通透性使得血浆蛋白质进入尿液。在剧烈运动或严重的情绪压力后，尿液中可能会有微量的蛋白质存在，但没有任何意义。

尿葡萄糖(糖)

健康人的尿液中不含葡萄糖。对尿样进行葡萄糖常规筛查可帮助那些没有糖尿病症状的患者尽早发现病情。

尿酮

酮产生于肝脏，通常是可以完全代谢的。碳水化合物代谢改变可在尿液中检测到酮。长期禁食或急性糖尿病患者的尿液中通常可以检测到酮。

尿胆红素

尿液中的胆红素表明存在肝病或胆管梗阻。由于胆红素通常在其他肝功能不全的迹象出现之前就出现在尿液中，因此它是一种有用的肝病诊断检测。

尿血(红细胞)

检测尿液中血红蛋白来自于溶解的和完整的红细胞。红细胞的存在预示着泌尿系统和肾脏疾病。女性的经血有时会污染尿液样本。

尿亚硝酸盐

某些细菌在尿液中的浓度高时会将硝酸盐代谢成亚硝酸盐。因此，亚硝酸盐检测结果呈阳性表明尿液中有大量细菌。这可能是尿路感染的征兆，特别是如果尿液样本是在无菌容器中收集的中游样本。

血小板

血小板是血液的细胞成分之一，在血液凝固中起着重要作用，血小板生成缺陷或数量减少将导致出血时间延长。

白细胞 (WBC)，分类计数

分类计数(DC)将白细胞分成五种主要类型，每种都有自己独特的功能。急性细菌感染时中性粒细胞增多。淋巴细胞在淋巴腺和血液中自由移动。它们通过胸导管进入血流。抗原刺激(病毒感染)使循环中淋巴细胞数量增加。单核细胞有助于确定感染的性质和过程。在过敏性疾病和寄生虫感染时嗜酸粒细胞会增加。嗜碱性粒细胞增加是对超敏反应和过敏刺激的反应。

红细胞沉降率 (ESR)

ESR测量在垂直放置的特殊细管中，一小时内红细胞相对于血浆的沉降速度。它不是针对任何特殊疾病的特殊检测，但可以作为检测所有炎症发展过程的指标。

可以作为常规健康检查的一部分，或者当您出现可能与影响血细胞有关的体征和症状时；定期监测治疗或疾病状况，或者在接受已知会影响血细胞的治疗时检测。

性病检查

梅毒性病筛查检测VD (RPR)

VD (RPR) 检测是梅毒感染的筛查检测。在感染后2到4周，检测会出现反应性 (阳性) 。尽管 VD (RPR) 检测是一种敏感的检测方法，但它对梅毒的特异性并不高，会出现假阳性的情况。因此，如果VD (RPR) 检测出现反应性，应进行梅毒螺旋体颗粒凝集试验 (TPPA) 以帮助诊断梅毒感染。

可以作为常规健康检查的一部分，或出现梅毒感染的症状；当您有暴露于梅毒的风险时检测，如当您感染了STD或HIV，或您的性伴侣患有梅毒，或曾经参与高危性行为，或当您怀孕时检测。

血液病学

血红蛋白 (Hb)，红细胞 (RBC)

RBC携带Hb，是将氧和血液从肺部输送到组织的必需物质。如果Hb水平低于参考范围，则说明存在贫血状态。这可能是由于以下原因造成的：出血造成的急性/慢性失血；饮食含铁量低；骨髓产生的红细胞减少；由于血液遗传病引起的血红蛋白合成缺陷，如地中海贫血。

血球容积比

血液样本通过细胞分析仪，直接测量计算细胞与血浆的百分比。它是评估血液病的有效检测。

红细胞指数 (MCV, MCH, MCHC)

MCV(平均细胞体积)测量个体血液中红细胞的平均体积。MCH(平均细胞血红蛋白)是测量RBC中Hb平均含量的指标。MCHC(平均细胞血红蛋白浓度)是表示RBC中Hb含量相对于细胞大小的指标。红细胞指数是贫血分类的有效指标。

红细胞分布宽度 (RDW)

细胞分布宽度是一个数字表达式，与红细胞大小均匀程度有关（样本血液中红细胞大小形状的异质性）。它是区分地中海贫血（一般在参考值范围内）和缺铁性贫血（一般大于参考值）的重要指标。然而，对于监测补铁对缺铁或巨幼细胞性贫血患者的治疗进展的有效性存在不同意见。当治疗对患者发挥作用后，RDW最终会回落到参考范围值内。

乙肝检查

乙型肝炎是由乙型肝炎病毒引起的肝脏感染。乙型肝炎血液检测可检测病毒蛋白(抗原),应对感染产生的抗体,或者检测、评估病毒的遗传物质。测试结果可以识别一个人是否目前被感染,是否过去曾接触过该病毒,或是否由于接种疫苗而具有免疫力。

乙型肝炎表面抗原(HBsAg)

HBsAg的存在表明急性或慢性乙型肝炎感染。大约5%-10%的成人急性乙型肝炎感染者会发展成为慢性HBsAg携带者。

乙型肝炎表面抗体(HBsAb)

HBsAb阳性结果表明从乙型肝炎感染后已完全恢复。这也可能是由于对病毒的免疫。接种疫苗后,如果水平下降到一定的数量以下,建议增加剂量,以确保对病毒的防护。

可以作为常规健康检查的一部分,或出现急性肝炎的体征或症状时,以确定是否由于感染引起的。也可在常规检测,如ALT和/或AST升高时跟进,或检查是否以前接种过疫苗。

丙型肝炎检查

丙型肝炎是一种引起肝脏感染的病毒,其特征是肝脏炎症和损伤。丙型肝炎检测是一组检测、诊断和监测丙型肝炎病毒感染治疗的检测。许多感染者没有症状,也没有意识到自己的病情。慢性感染在造成足够的肝损伤,影响肝功能之前,可能会静静地潜伏十年到二十年。

可以作为对具有危险因素的个体的常规健康检查的一部分,或在出现急性肝炎的体征或症状时检测,以确定是否由感染引起。

甲状腺

甲状腺产生的激素会通过血液传播到身体的各个部位。这些激素调节您的新陈代谢和蛋白质的产生。甲状腺还会产生降钙素，降钙素是一种调节血液中钙水平的激素。

总甲状腺素(T4) And 和游离甲状腺素 (Free T4)

甲状腺素检测有助于诊断甲状腺疾病。甲状腺素是一种甲状腺激素。这项检测是测量血液中甲状腺素的水平。甲状腺素过多或过少均表示可能患有甲状腺疾病。

甲状腺素激素 (T4) 有两种形式：
与血浆蛋白结合的T4：血液中几乎所有的T4(99.95%)都与蛋白质结合。

游离T4：0.05%未与血浆蛋白结合的T4为游离态T4，是该激素的生物活性形式。

总的T4检测可同时测量与血浆蛋白结合的T4和游离T4，而游离T4检测仅测量游离态T4。

可以作为常规健康检查的一部分，或当您患有甲状腺疾病和/或出现甲状腺肿大的体征和症状时；或甲状腺结节或疾病，或甲状腺刺激激素结果异常时检测。

三碘甲状腺素 (T3)

三碘甲状腺素是一种甲状腺激素。这项检测可以测量血液中三碘甲状腺素的水平。过多或过少的三碘甲状腺素均表示可能患有甲状腺疾病。

可以作为常规健康检查的一部分，或帮助评估甲状腺功能；诊断甲状腺疾病并确定病因；监测甲状腺疾病的治疗效果。

促甲状腺激素 (TSH)

促甲状腺激素通过与TSH受体结合，向血液中释放甲状腺素和三碘甲状腺素来刺激甲状腺。

可以作为常规健康检查的一部分，或当您患有甲状腺功能亢进或甲状腺功能减退和/或出现甲状腺肿大的体征和症状，或甲状腺结节，或正在接受甲状腺疾病治疗时检测。

冠状动脉组

这是一组检测，已被证实当与个人健康和家族史等其他健康因素共同考虑时，可以显示个体发生心脏病或中风等心血管疾病的可能性。

载脂蛋白A

脂蛋白A是一种在脂类运输和代谢中具有特殊作用的蛋白质，是高密度脂蛋白(HDL，“好胆固醇”)的主要蛋白质成分。这项检测可测量血液中载脂蛋白A的含量。缺乏载脂蛋白A将会增加患心血管疾病的风险。载脂蛋白A的水平为帮助评估心血管疾病风险，特别是当HDL含量较低时，提供了更多信息。

载脂蛋白B

载脂蛋白B是一种参与脂类代谢的蛋白质，是低密度脂蛋白 (LDL，“坏胆固醇”) 的主要蛋白质成分。这项检测可以测量血液中载脂蛋白B的含量。载脂蛋白B的增加将会伴随患心血管疾病的风险增加。

超敏C反应蛋白 (hs-CRP)

超敏C反应蛋白是一种由于炎症和感染以及心脏病发作、手术或创伤等在血液中增加的蛋白质。持续低水平的炎症是动脉粥状硬化的主要原因，动脉粥状硬化是由于胆固醇和其他脂质的积聚而导致血管变窄，通常与心血管疾病有关。hs-CRP检测是通过测量较低水平的蛋白质来发现引起显著炎症的疾病，并用于评估个人患心血管疾病的风险。

血脂

总胆固醇

监测及保持健康的胆固醇水平对保持健康至关重要。人体产生正常工作所需的胆固醇，但是有些胆固醇来自于饮食。如果一个人具有高胆固醇的遗传体质，或食用太多饱和脂肪和反式不饱和脂肪含量高的食物，那么这个人血液中的胆固醇含量可能会增加，对其健康产生负面影响。胆固醇沉积在血管壁上，造成血管变窄并最终阻塞，从而导致中风或心脏病发作的风险增加。

胆固醇在体内以多种形式存在。两种最重要的形式是高密度脂蛋白 (HDL) 和低密度脂蛋白 (LDL)。

高密度脂蛋白胆固醇

这被称为“好胆固醇”。它将胆固醇带回肝脏，在那里过量的胆固醇被分解并从体内排出。因此它对冠心病 (CHD) 的发展起到保护作用。在这种情况下，高密度脂蛋白胆固醇水平高是有益的。

低密度脂蛋白胆固醇

这被称为“坏胆固醇”。它从肝脏中运输胆固醇，沿途将胆固醇沉积在血管壁上。因此低密度脂蛋白胆固醇升高会增加患冠心病的风险。

甘油三酯

甘油三酯是体能的储备燃料，存在于脂肪组织中。富含淀粉、糖和油性食物的饮食会导致血液中的甘油三酯含量增高。甘油三酯水平升高会导致肥胖，增加患冠心病的风险。当不存在心脏病的风险因素时，可以作为常规健康检查的一部分。当存在心脏病的风险因素时；或当以前的检测结果显示处于高风险等级时；和/或在接受不健康脂质水平治疗时，可以更加频繁地检测，或者定期检测。

球蛋白	球蛋白形成各种物质的主要运输系统，也是对抗感染的抗体系统的组成部分。高水平可能是由于肝病、感染、慢性病，有时还可能是多发性骨髓瘤。低水平通常与营养不良有关。
A/G 比率（白蛋白/球蛋白）	该比率用于评估肝脏和肾脏的状态。低比率表明肝损伤。
谷草转氨酶（AST）	SGOT　是一种存在于许多器官细胞中的酶，例如肝脏、心脏、骨骼肌和血细胞。血液中高水平的 SGOT 通常与器官细胞破坏有关，例如急性心肌梗死（心脏病发作）和肝炎。
丙氨酸氨基转移酶（ALT）	SGPT　是一种通常存在于肝脏中的酶。肝细胞受损会导致大量酶释放到血流中。
碱性磷酸酶（ALP）	ALP　是一种存在于骨骼和肝脏中的酶。骨骼正在生长的儿童体内浓度很高。在成人中，高水平常见于骨骼疾病和肝脏疾病。
伽玛 GT (GGT)	这种酶存在于肝脏以及其他组织中。肝细胞受损会导致大量酶释放到血流中。酒精性肝硬化和其他严重肝脏疾病中的含量非常高。 当不存在肝病危险因素时，可以作为常规健康检查的一部分进行订购。当存在肝脏疾病的危险因素、先前的结果显示高风险水平和/或正在接受不健康的酶和蛋白质水平的治疗时，可以更频繁地定期进行检查。

血红蛋白A1c

血红蛋白A1c，也称为糖化血红蛋白，是带有葡萄糖的血红蛋白。 该检测通过测量血液中糖化血红蛋白的百分比来评估过去3个月里血液中葡萄糖的平均含量。 血红蛋白是一种存在于红细胞中的转运氧气的蛋白。 正常的血红蛋白有几种类型，但最重要的形式是血红蛋白A。当葡萄糖在血液中循环时，其中的一些会自发的与血红蛋白A结合。

血液中葡萄糖含量越高，形成的糖化血红蛋白越多。一旦葡萄糖与血红蛋白结合，将终生存在于红细胞中。

这项检测可以检查您的血糖水平是否随着时间的推移得到了很好地控制。

肝功能检查

肝脏对于食物消化和排除体内有害毒素至关重要。肝功能检查可检查血液中某些酶和蛋白质的水平。水平高于或低于平时可能意味着肝脏出现问题。这些测试的模式和升高程度以及整体临床情况可以为这些问题的根本原因提供线索。

总胆红素

胆红素是血红蛋白分解产生的废物。它在肝脏中形成并通过胆汁排泄。血液中胆红素含量过高会导致黄疸，导致皮肤和眼睛的白色部分发黄。高水平与肝脏疾病和溶血性贫血有关。

总蛋白

总蛋白由白蛋白和球蛋白组成，主要由肝脏产生。TP 水平高的常见原因包括慢性肝病、脱水、慢性感染和酗酒。低水平可能是由严重的肝脏疾病、营养不良和慢性肾功能衰竭引起的。

白蛋白

白蛋白充当一些药物和其他一些物质的转运蛋白。水平降低可能导致肝脏疾病、饥饿和蛋白质损失v

碳酸氢盐

碳酸氢盐可帮助人体保持酸碱 (pH) 平衡。

可以作为常规健康检查的一部分，或检测可能导致酸碱(pH)失衡，并对肺、肾脏、新陈代谢或呼吸造成影响的疾病或情况。

尿素

血液中的尿素是蛋白质分解的最终产物，由肾脏排出体外。

可以作为常规健康检查的一部分。长期高蛋白饮食或长期禁食的人可能会出现尿素水平升高。肾脏疾病也会造成尿素水平升高。

肌酸酐

肌酸酐是肌肉的副产品，与人体的肌肉含量有关。

当您进行常规健康检查，或当您由于肾脏和/或肾功能不全而出现恶化的体征或症状，或每隔一段时间监测肾病和/或肾功能不全的治疗情况时，或每隔一段时间监测服用某些药物对肾病或肾功能不全的治疗情况时，可以作为代谢检测的一部分。

碳水化合物代谢检测

葡萄糖

正常的身体机能需要足够的葡萄糖。

这项检测可以确定您的血糖水平是否在健康范围内；检查及诊断糖尿病和糖尿病前期，监测高血糖或低血糖。

肾功能检查

电解质（钠、钾、氯和碳酸氢盐）

体内的电解质平衡主要取决于食物和液体的摄入量及肾脏的排泄量。在一些影响摄入和输出的生理条件下，如脱水和严重腹泻，可能会发现异常结果。肾功能障碍也可能导致电解质水平紊乱。治疗高血压和心脏病的药物也会影响电解质水平。

钠

钠存在于所有体液中，对包括神经和肌肉功能在内的正常的人体功能至关重要。当血液中的钠含量发生变化时，体内的水分含量也会发生变化。这些变化可能与体液过少(脱水) 或过多 (水肿) 有关。

可在常规健康检查中检测，或在检测或评估您是否患有急性或慢性疾病(例如高血压，心力衰竭、肝脏及肾脏疾病)时，作为电解质或代谢的一部分进行检测。也可用于评估和检测接受静脉输液的患者。

钾

钾对细胞代谢至关重要。钾可以帮助将营养物质输送到细胞中，并将废物从细胞中清除。钾对肌肉功能也很重要，有助于在神经和肌肉之间传递信息。当您患有肾病、高血压、肌无力、心率不齐或使用利尿剂或心脏药物治疗的疾病时，可以作为常规健康检查的一部分进行检测。也可以用于监测需要接受透析、利尿剂治疗或静脉输液的患者。

氯化物

氯化物与其他电解质共同作用，帮助调解体内的液体含量，保持酸碱 (pH) 平衡。

可以作为常规健康检查的一部分。氯化物和其他电解质检测可以帮助诊断如长期呕吐、腹泻、虚弱或呼吸困难等体征和症状的原因。

关于实验室检测

本文旨在为患者提供一些有用的检测信息，可以作为健康检查的一部分。此处只对这些检测做简要说明。因为参考范围通常为健康人群中位值的95%，所以给定的样本，即使来自健康个体，也不太可能在所有检测中均显示“正常”。所有的结果与患者的病史及临床表现有关。因此您的医生是解释您的检测结果的最佳人选，请向您的医生问询。

祝患者力 家人，感同身受

在 Parkway Laboratories，我们不仅关注患者的实验室检测结果 - 我们还像家人一样照顾患者。我们拥有经验丰富的实验室团队和设备精良的实验室，包括为全岛范围内的住院患者及门诊患者提供服务的基准实验室。

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