

Common blood tests

Blood tests are performed to determine the biochemical and physiological state of the blood, which can determine if a patient is ill, if there is an imbalance in a mineral, if drugs are working or present, or if organs are functioning properly.



1-Complete Blood Count (CBC)

2-Chemistry Panel :measures

A- Blood glucose

Blood glucose tests are also sometimes called blood sugar done as:

- Fasting blood sugar test:

- *Oral glucose tolerance test

Abbreviated as **OGTT or GTT**, for this test patient fast, then have a blood sample taken, then drink glucose, and then have a number of samples taken over a few hours. They are usually used to check for or monitor diabetes.

The standard blood glucose tests measure blood sugar level at a particular time. The OGTT measures response to glucose.

Pregnant women can develop a particular type of diabetes called gestational diabetes, and might be asked to have an OGTT around 28 weeks of pregnancy. Gestational diabetes usually goes away after the baby is born.

- *HbA1c test

HbA1c is a blood test that is used to help diagnose and monitor people with diabetes. It is also sometimes called a haemoglobin A1c, glycated haemoglobin or

glycosylated haemoglobin. HbA1c refers to glucose and haemoglobin joined together (the haemoglobin is 'glycated'). Haemoglobin is the protein in red blood cells that carries oxygen throughout the body. The amount of HbA1c formed is directly related to the amount of glucose in blood.

Red blood cells live for up to 4 months, so HbA1c gives an indication of how much sugar in blood over the past few months. It's different to the blood glucose test, which measures how much sugar in blood at that moment.



It can be used to diagnose diabetes and indicates how well diabetes has been controlled over the last few months. Higher HbA1c, mean greater risk of developing complications such as problems with eyes and kidneys.

B- Kidney function tests

Kidney tests are very important for people who have diabetes, high blood pressure or heart disease.

The most important tests:

Creatinine and urea in blood & Electrolytes in blood – usually sodium, potassium, chloride or bicarbonate.

- **Liver function tests**

Liver function tests (also called LFTs) are blood tests that can provide information about liver working. They test the levels of a number of proteins and enzymes that are either produced by liver cells or released into the blood when liver cells are damaged

- **Cardiac enzymes**

Cardiac enzyme tests can check whether the heart muscle is damaged, and indicate if a person has had a heart attack. The most common test is troponin. This test has replaced other cardiac enzyme tests previously done (total cholesterol, HDL (high-density lipoprotein), LDL (low-density lipoprotein), triglycerides, and the total cholesterol/HDL ratio, as it is more accurate.

Troponin is a protein found in the heart muscle. When the heart muscle is injured, troponin is released into the bloodstream and the level that can be detected goes up. This can happen during and after a heart attack. Often the test will be done more than once to monitor for damage.

Common Blood Test Codes

Blood Test Code	Definition
CBC: Complete Blood Count	This is one of the most common tests administered, which measures the cell count in the blood and the ratios and weights of blood components by comparing white and red blood cell counts, hemoglobin, hematocrit, and corpuscular volume.. It helps doctors determine if a patient is affected by infection, anemia, blood cancers, immunity issues, or platelet problems.
BMP: Basic Metabolic Panel	This series of tests is used to measure chemicals present in the blood. The test is administered on the plasma and measures electrolyte levels, glucose, calcium, and other chemicals. It is used to determine a patient’s overall health and if there are any underlying imbalances causes various health problems.
CK: Creatine Kinase Tests	This measures an enzyme in your body that is produced when the heart is injured. This test is used when a patient has a heart attack. It indicates the severity of the heart attack.
LDL and HDL	This tests measures the amount of bad (LDL) and good (HDL) cholesterol in the blood. If results are out of the norm, your doctor will likely suggest dietary changes and potentially cholesterol medication.
CRP: C-Reactive Protein Test	This test measures how much protein in the blood which indicates if a patient has inflammation and is at risk for a heart attack. Result can be used to encourage a patient to make lifestyle changes to reduce his or her risk.
TSH: Thyroid Stimulating Hormone Test	This test is used to diagnose thyroid disorders, such as when the thyroid is underactive or there is a problem with fertility.
AST: Asparate Aminotransferase	This measures an enzyme found in the blood that rises when an injury occurs in the body’s tissue or an organ. It helps a doctor determine if there are internal injuries.

Other Blood Test Codes

The following are codes for less common blood tests:

Codes	Common Names	Test For
25 Hydroxy Vitamin D	Vitamin D	Levels of Vitamin D
ALT	Alanine Transaminase	Liver Function
ANA	Antinuclear antibody	Autoimmune disease
BAC	Blood Alcohol Concentration	Blood alcohol
BNP	Beta natriuretic peptide	Congestive heart failure
BUN	Blood Urea Nitrogen	Kidney Function
Ca	Calcium	Levels of Blood Calcium
CBL	Cobalamin (Vitamin B12)	Levels of Vitamin B12
CMP	Comprehensive Metabolic Panel	Refer to a group of tests
CPK	Creatine phosphokinase	Muscle Damage
Cr	Creatinine	Kidney Function
ESR	Erythrocyte Sedimentation Rate	'sed rate'. Test for inflammation
Hct	Hematocrit	Part of the CBC Blood Test
Hgb	Hemoglobin	Part of the CBC Blood Test
INR	International Normalized Ratio	A test of blood clotting
K	Potassium	Measures potassium level in blood

MCV	Mean Corpuscle Volume	One of the CBC
Mg	Magnesium	Measures magnesium level in blood
Na	Sodium	Measures sodium level of the blood
Platelets	Platelets	One of the CBC
PSA	Prostate Specific Antigen	Prostate Cancer
PT	Prothrombin Time	Blood clotting
PTT	Partial Thromboplastin Time	Blood clotting
RBC	Red Blood Cell Count	One of the CBC
TPO	Thyroid Peroxidase Antibodies	Measurement of antibodies to the thyroid
Trig	Triglycerides	Cholesterol
WBC	White Blood Cell Count	One of the CBC



Blood Test Reference Range

1. Complete Blood Count

Test Items	Normal Results
Red blood cell	5 to 6 million cells/mcL (male)
	4 to 5 million cells/mcL (female)
White blood cell	4,500 to 10,000 cells/mcL
Platelets	140,000 to 450,000 cells/mcL
Hemoglobin	14 to 17 gm/dL (male)
	12 to 15 gm/dL (female)
Hematocrit	41% to 50% (male)
	36% to 44% (female)
Mean corpuscular volume	80 to 95 femtoliter

2. Blood Glucose

Plasma Glucose (mg/dL)	Results
<99	Normal
100 - 125	Prediabetes
>126	Diabetes

3. Lipoprotein Panel

Total Cholesterol (mg/dL)	Diagnosis
<200	Optimal
200–239	Borderline High
>240	High
LDL Cholesterol (mg/dL)	Diagnosis
<100	Desirable
100–129	Near Desirable
130–159	Borderline High
160–189	High
>190	Very High
HDL Cholesterol (mg/dL)	Diagnosis
<40	Risk of heart disease
40–59	Better to be higher
>60	Protect against heart disease

