
Glossary of Terms



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SpO2

Pulse oximetry is a test that measures how much oxygen is in blood. Many people consider oxygen level an important sign of how well a body is working, just like a person's blood pressure or body temperature. Many people with COVID-19 disease have low levels of oxygen in their blood, even when they feel well. Low oxygen levels can be an early warning sign that people need medical care

A normal level of oxygen is usually at least 95% or higher. Some people with chronic lung disease or sleep apnea can have normal levels of around 90%. The SpO2 reading on a pulse oximeter shows the percentage of oxygen in someone's blood.

The Center for Disease Prevention and Control defines severe illness of COVID-19 in people as taking more than 30 breaths per minute and having an SpO2 reading lower than 94%, on room air at sea level (or a decrease of more than 3% from a baseline reading for patients with chronic hypoxemia, a belownormal level of oxygen in blood, specifically in the arteries). See CDC: SARS-CoV-2 Illness Severity Criteria (www.cdc.gov/coronavirus/2019-ncov/hcp/disposition-hospitalized-patients.html#definitions).

Source: <https://www.health.state.mn.us/diseases/coronavirus/hcp/pulseoximetry.pdf>

CBC

A complete blood count (CBC) measures the size, number, and maturity of the different blood cells in a specific volume of blood. This is one of the most common tests performed.

Red blood cells are important for carrying oxygen and fighting anemia and fatigue. The hemoglobin portion of the CBC measures the oxygen carrying capacity of the red blood cells while the hematocrit measures the percentage of red blood cells in the blood.

White blood cells fight infection. Increased numbers of white blood cells, therefore, may indicate the presence of an infection. Decreased levels may indicate certain rheumatic diseases or reaction to medication.

Platelets prevent the body from bleeding and bruising easily. It is usually performed to check for a blood infection.

Source: <https://stanfordhealthcare.org/medical-tests/b/blood-test/types/cbc.html>

Chest X-Ray CXR

Chest X-rays produce images of your heart, lungs, blood vessels, airways, and the bones of your chest and spine. Chest X-rays can also reveal fluid in or around your lungs or air surrounding a lung.

If you go to your doctor or the emergency room with chest pain, a chest injury or shortness of breath, you will typically get a chest X-ray. The image helps your doctor determine whether you have heart problems, a collapsed lung, pneumonia, broken ribs, emphysema, cancer or any of several other conditions.

Some people have a series of chest X-rays done over time to track whether a health problem is getting better or worse.

Source: <https://www.mayoclinic.org/tests-procedures/chest-x-rays/about/pac-20393494>

NP Swab

A nasopharyngeal culture is a quick, painless test used to diagnose upper respiratory infections. These are infections that cause symptoms like a cough or a runny nose. The test can be completed in your doctor's office. A culture is a way of identifying infectious organisms by allowing them to grow in a laboratory. This test identifies disease-causing organisms that live in the secretions at the back of your nose and throat. For this test, your secretions are collected using a swab. They may also be suctioned out using an aspirator. Any bacteria, fungi, or viruses present in the sample are given a chance to multiply. This makes them easier to detect. Results from this test are generally available within 48 hours. They can help your doctor effectively treat your symptoms.

You may also hear this test referred to as a:

nasopharyngeal or nasal aspiration
nasopharyngeal or nasal swab
nose swab

<https://www.healthline.com/health/nasopharyngeal-culture>

RT-PCR

The COVID-19 real-time reverse transcription-polymerase chain reaction (RT-PCR) tests the upper and lower respiratory specimens such as swabs, sputum, nasopharyngeal, and others of the patients suspected with COVID-19. Nasal or throat swabs of an individual are collected under the observation of a healthcare practitioner or a self-collection kit can also be used that is commercially approved for use of this test.

This test includes the extraction of ribonucleic acid (RNA) a genetic material of the COVID-19 virus. The test analyzes the genetic sequences such as the SARS-COV-2 virus and then the results are positive. The test results are negative when the sample analyzed does not contain the virus or the sample is not administered properly. RT-PCR test is expensive, as it requires trained professionals, RNA extraction machines, and a laboratory. A minimum of four hours is required to get the RT-PCR test results and gauge the extent of infection in an individual.

Source: <https://www.apollohospitals.com/covid-19-rt-pcr-test/>

CT chest

A chest CT scan is a more detailed type of chest x-ray. This painless imaging test takes many detailed pictures, called slices, of your lungs and the inside of your chest. Computers can combine these pictures to create three-dimensional (3D) models to help show the size, shape, and position of your lungs and structures in your chest. This imaging test is often done to follow up on abnormal findings from earlier chest x rays. A chest CT scan also can help determine the cause of lung symptoms such as shortness of breath or chest pain, or check to see if you have certain lung problems such as a tumor, excess fluid around the lungs that is known as pleural effusion, pulmonary embolism, emphysema, tuberculosis, and pneumonia.

Source: <https://www.nhlbi.nih.gov/health-topics/chest-ct-scan>

Blood Glucose/FBG tests

A blood glucose test measures the glucose levels in your blood. Glucose is a type of sugar. It is your body's main source of energy. A hormone called insulin helps move glucose from your bloodstream into your cells. Too much or too little glucose in the blood can be a sign of a serious medical condition. High blood glucose levels (hyperglycemia) may be a sign of diabetes, a disorder that can cause heart disease, blindness, kidney failure and other complications. Low blood glucose levels (hypoglycemia) can also lead to major health problems, including brain damage, if not treated.

Other names: blood sugar, self-monitoring of blood glucose (SMBG), fasting plasma glucose (FPG), fasting blood sugar (FBS), fasting blood glucose (FBG), glucose challenge test, oral glucose tolerance test (OGTT)

Source: <https://medlineplus.gov/lab-tests/blood-glucose-test/>

Liver Function Tests

Liver function tests, also known as liver chemistries, help determine the health of your liver by measuring the levels of proteins, liver enzymes, and bilirubin in your blood.

A liver function test is often recommended in the following situations:

- to check for damage from liver infections, such as hepatitis B and hepatitis C
- to monitor the side effects of certain medications known to affect the liver
- if you already have a liver disease, to monitor the disease and how well a particular treatment is working
- if you're experiencing the symptoms of a liver disorder
- if you have certain medical conditions such as high triglycerides, diabetes, high blood pressure, or anemia
- if you drink alcohol heavily
- if you have gallbladder disease
- Many tests can be performed on the liver. Certain tests can reflect different aspects of liver function.

Commonly used tests to check liver abnormalities are tests checking:

- alanine transaminase (ALT)
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- aspartate aminotransferase (AST)
 - alkaline phosphatase (ALP)
 - Albumin
 - Bilirubin
 - The ALT and AST tests measure enzymes that your liver releases in response to damage or disease. The albumin test measures how well the liver creates albumin, while the bilirubin test measures how well it disposes of bilirubin. ALP can be used to evaluate the bile duct system of the liver.

Having abnormal results on any of these liver tests typically requires follow up to determine the cause of the abnormalities. Even mildly elevated results can be associated with liver disease. However, these enzymes can also be found in other places besides the liver.

Source: <https://www.healthline.com/health/liver-function-tests>

Kidney Tests RFT

Types of kidney function tests

To test your kidney function, your doctor will order a set of tests that can estimate your glomerular filtration rate (GFR). Your GFR tells your doctor how quickly your kidneys are clearing waste from your body.

Urinalysis

A urinalysis screens for the presence of protein and blood in the urine. There are many possible reasons for protein in your urine, not all of which are related to disease. Infection increases urine protein, but so does a heavy physical workout. Your doctor may want to repeat this test after a few weeks to see if the results are similar.

Your doctor may also ask you to provide a 24-hour urine collection sample. This can help doctors see how fast a waste product called creatinine is clearing from your body. Creatinine is a breakdown product of muscle tissue.

Serum creatinine test

This blood test examines whether creatinine is building up in your blood. The kidneys usually completely filter creatinine from the blood. A high level of creatinine suggests a kidney problem.

According to the National Kidney Foundation (NKF), a creatinine level higher than 1.2 milligrams/deciliter (mg/dL) for women and 1.4 mg/dL for men is a sign of a kidney problem.

Blood urea nitrogen (BUN)

The blood urea nitrogen (BUN) test also checks for waste products in your blood. BUN tests measure the amount of nitrogen in the blood. Urea nitrogen is a breakdown product of protein.

However, not all elevated BUN tests are due to kidney damage. Common medications, including large doses of aspirin and some types of antibiotics, can also increase your BUN. It's important to tell your doctor about any medications or supplements that you take regularly. You may need to stop certain drugs for a few days before the test.

A normal BUN level is between 7 and 20 mg/dL. A higher value could suggest several different health problems.

Estimated GFR

This test estimates how well your kidneys are filtering waste. The test determines the rate by looking at factors, such as:

test results, specifically creatinine levels

age

gender

race

height

weight

Any result lower than 60 milliliters/minute/1.73m² may be a warning sign of kidney disease.

Source: <https://www.healthline.com/health/kidney-function-tests#symptoms>

CRP

C-reactive protein (CRP) is a blood test marker for inflammation in the body. CRP is produced in the liver and its level is measured by testing the blood. CRP is classified as an acute phase reactant, which means that its levels will rise in response to inflammation. Other common acute phase reactants include the erythrocyte sedimentation rate (ESR) and blood platelet count.

Source: https://www.medicinenet.com/c-reactive_protein_test_crp/article.htm

Ferritin

A ferritin test measures the amount of ferritin in your blood. Ferritin is a blood protein that contains iron. A ferritin test helps your doctor understand how much iron your body stores.

If a ferritin test reveals that your blood ferritin level is lower than normal, it indicates your body's iron stores are low and you have iron deficiency. As a result, you could be anemic.

If a ferritin test shows higher than normal levels, it could indicate that you have a condition that causes your body to store too much iron. It could also point to liver disease, rheumatoid arthritis, other inflammatory conditions or hyperthyroidism. Some types of cancer also can cause your blood ferritin level to be high.

Source: <https://www.mayoclinic.org/tests-procedures/ferritin-test/about/pac-20384928>

D-Dimer

A D-dimer test is a blood test that can be used to help rule out the presence of a serious blood clot.

When you get a cut, your body takes a bunch of steps to make your blood clump up. It's a normal part of healing -- without it, you'd keep bleeding and have a much more serious problem to deal with.

Once the bleeding stops, you don't need the clot anymore. So your body takes a series of steps in the other direction and breaks the clot down.

At the end of all that, you have some leftover substances floating around in your blood -- like how you'd have wood dust all over after a building project.

One of those leftovers is called D-dimer. It's part of a protein. Normally, with a little time, it goes away. But you can get high levels of D-dimer in your blood if you have a major clot like with deep vein thrombosis (DVT).

Source: <https://www.webmd.com/dvt/what-is-the-d-dimer-test>

Trop-T

What is a troponin test?

A troponin test measures the level of troponin in your blood. Troponin is a type of protein found in the muscles of your heart. Troponin isn't normally found in the blood. When heart muscles become damaged, troponin is sent into the bloodstream. As heart damage increases, greater amounts of troponin are released in the blood.

High levels of troponin in the blood may mean you are having or recently had a heart attack. A heart attack happens when blood flow to the heart gets blocked. This blockage can be deadly. But quick diagnosis and treatment can save your life.

Other names: cardiac troponin I (cTnI), cardiac troponin T (cTnT), cardiac troponin (cTN), cardiac-specific troponin I and troponin T

What is it used for?

The test is most often used to diagnose a heart attack. It is sometimes used to monitor angina, a condition that limits blood flow to the heart and causes chest pain. Angina sometimes leads to a heart attack.

<https://medlineplus.gov/lab-tests/troponin-test/>

ECG

An electrocardiogram records the electrical signals in your heart. It's a common and painless test used to quickly detect heart problems and monitor your heart's health.

Electrocardiograms — also called ECGs or EKGs — are often done in a doctor's office, a clinic or a hospital room. ECG machines are standard equipment in operating rooms and ambulances. Some personal devices, such as smart watches, offer ECG monitoring. Ask your doctor if this is an option for you.

Source: <https://www.mayoclinic.org/tests-procedures/ekg/about/pac-20384983>

RDW

A red cell distribution width (RDW) test is a measurement of the range in the volume and size of your red blood cells (erythrocytes). Red blood cells move oxygen from your lungs to every cell in your body. Your cells need oxygen to grow, reproduce, and stay healthy. If your red blood cells are larger than normal, it could indicate a medical problem.

Other names: RDW-SD (standard deviation) test, Erythrocyte Distribution Width

What is it used for?

The RDW blood test is often part of a complete blood count (CBC), a test that measures many different components of your blood, including red cells. The RDW test is commonly used to diagnose anemia, a condition in which your red blood cells can't carry enough oxygen to the rest of your body. The RDW test may also be used to diagnose: Other blood disorders such as thalassemia, an inherited disease that can cause severe anemia

Medical conditions such as heart disease, diabetes, liver disease, and cancer, especially colorectal cancer.

PCT Test

A procalcitonin test measures the level of procalcitonin in your blood. A high level could be a sign of a serious bacterial infection, such as sepsis. Sepsis is the body's severe response to infection. Sepsis happens when an infection in one area of your body, such as your skin or urinary tract, spreads into your bloodstream. This triggers an extreme immune reaction. It can cause a rapid heartbeat, shortness of breath, decreased blood pressure, and other symptoms. Without quick treatment, sepsis can lead to organ failure or even death.

A procalcitonin test can help your health care provider determine if you have sepsis or another serious bacterial infection in the early stages. This may help you get treated promptly and avoid life-threatening complications.

PT/PTT

A procalcitonin test measures the level of procalcitonin in your blood. A high level could be a sign of a serious bacterial infection, such as sepsis. Sepsis is the body's severe response to infection. Sepsis happens when an infection in one area of your body, such as your skin or urinary tract, spreads into your bloodstream. This triggers an extreme immune reaction. It can cause a rapid heartbeat, shortness of breath, decreased blood pressure, and other symptoms. Without quick treatment, sepsis can lead to organ failure or even death.

A procalcitonin test can help your health care provider determine if you have sepsis or another serious bacterial infection in the early stages. This may help you get treated promptly and avoid life-threatening complications.

HbA1c

The hemoglobin A1c test tells you your average level of blood sugar over the past 2 to 3 months. It's also called HbA1c, glycated hemoglobin test, and glycohemoglobin.

People who have diabetes need this test regularly to see if their levels are staying within range. It can tell if you need to adjust your diabetes medicines. The A1c test is also used to diagnose diabetes.
