

FACT SHEET

Glossary of Medical Examination Terms

Physical Examination

A thorough physical examination is conducted by an occupational medicine physician to assess your health status in relation to your specific occupation and ability to perform essential job functions. The physician also reviews your medical history. The exam does not cover personal health issues, which should be referred to your personal health care provider.

Blood Pressure

Blood pressure test results consist of two numbers. The top number, systolic blood pressure, is the maximum pressure exerted when the heart contracts. The bottom number, diastolic blood pressure, is the period of time that elapses between contractions when the heart is at rest. Diastolic pressure varies by age, sex, weight and emotional state.

- Normal Blood Pressure: <120/80
- Prehypertension: <120/80 – 139/89
- Stage 1 Hypertension: 140/90 – 159/99
- Stage 2 Hypertension: >160/100

More than one blood pressure measurement is needed before an accurate diagnosis of high blood pressure, or hypertension, can be made. Hypertension is referred to as a “silent killer” because it often has no [warning signs or symptoms](#), and many people do not know they have it. Uncontrolled high blood pressure increases the risk of serious health problems, including heart attack and stroke. If you have hypertension, consult your personal physician. Medications for high blood pressure should be taken as prescribed.

Chest X-Rays and Radiographs



A chest X-ray is used for screening and diagnostic purposes. It provides images of the chest, lungs, heart, large arteries, ribs and diaphragm. A serial chest X-ray (repeated or sequential) may be used to assess changes in an abnormality found on a chest X-ray over time (for example, an increase in size).

Two views are usually taken by an X-ray technician while you stand and hold your breath:

1. Posterior-anterior view – the X-rays pass through the chest from the back.
2. Lateral view – the X-rays pass through the chest from one side to the other.

Radiographs are used to evaluate occupational lung disorders and identify lung diseases before functional impairment occurs. Standards for reading radiographs have been established by the International Labor Organization (ILO) and the World Health Organization (WHO).

A certified radiologist interprets results. If a respiratory disease is suspected, a radiologist certified as a B-reader is likely to be consulted.

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B-readers receive special training in evaluating the size, nature and extent of radiographic opacities and pleural shadows.

Pulmonary Function Test (PFT)



A pulmonary function test (PFT) is used to determine how well your lungs and airways are working. Spirometry is the most commonly used PFT. The test requires you to inhale deeply and exhale with force. Several inhalations-exhalations are recorded to obtain valid results.

Normal PFT results are expressed as a percentage and adjusted by age, height, ethnicity and gender. A result is usually considered abnormal if it is less than 80 percent of an individual's predicted value.

Spirometry results include:

- Forced Vital Capacity (FVC) – Total volume of air that can be expelled by forceful effort after maximum inspiration. A low number could indicate a restrictive disease.
- Forced Expiratory Volume in One Second (FEV₁) – Volume of air exhaled in one second. A low number could indicate obstructive disease.
- Ratio of FEV₁ to FVC (FEV₁/FVC) – A low number could indicate obstructive disease.

People with restrictive lung disease have difficulty fully expanding their lungs with air. Obstructive lung diseases include conditions that make it difficult to exhale all the air in the lungs.

Audiometric Test

This test is part of a hearing conservation program designed to protect workers from hearing loss. According to the Occupational Safety and Health Administration (OSHA), a soundproof booth is not required, however, rooms used for audiometric testing should not have background sound levels exceeding those specified in the agency's Occupational Noise Exposure Standard, 1910.95.

Vision Test



A vision test includes a complete evaluation to measure the ability to see colors, discern details at near and far distances (visual acuity), and check for gaps or defects in the field of vision. A visual acuity test usually involves reading letters or looking at symbols of different sizes on an eye chart. Usually, each eye is tested

individually, together and with prescribed corrective lenses.

An eye chart (Snellen test) consists of several lines of letters ranging from large to small. To test your distance vision, you will stand 20 feet from the chart, cover one eye and be asked to read the smallest line of letters you can see on the chart. The process is repeated with the other eye.

Understanding Laboratory Test Results and Terminology

Complete Blood Count (CBC)



CBC is a commonly performed laboratory test to check for signs of anemia, infection or a tendency to bleed. Primary components include:

1. **White blood cell (WBC)** – If the WBC count is elevated, it may indicate the presence of infection, steroid treatment or a number of other potential causes. A low count is usually associated with certain medications, infections, autoimmune disorders and blood diseases.

White blood cells are usually divided by type, or differential. Minor variations in WBC counts in these subgroups are not unusual and are not a cause for alarm. The different types of white blood cells are:

- Neutrophils –usually elevated with bacterial infection. Conversely, low numbers may be associated with an increased risk of infection.
- Lymphocytes –usually elevated by viral infections. Low numbers may be observed in diseases such as hepatitis, lymphoma and AIDS.
- Eosinophils –usually elevated due to allergies or infectious parasites.
- Monocytes –elevated in blood diseases, certain infections and autoimmune diseases.
- Basophils –usually elevated in blood diseases.

2. **Hemoglobin (Hgb) and Hematocrit (Hct)** – When below normal range, this test usually indicates the presence of anemia; elevated counts are observed in smokers and in connection with polycythemia, a blood disease.
3. **Mean Corpuscular Volume (MCV)** – This test is usually used to determine what type of anemia a person may have. If elevated, it may indicate anemia from vitamin deficiency, such as B12 or folic acid. If it is below normal, it usually indicates anemia from iron deficiency.
4. **Platelet Count** – The smallest blood cells involved in clotting, platelet count can be abnormal in response to a number of medical conditions. The most common disorder is a lowering of the platelet count (purpura) in response to medication interactions or antibody formation. In some individuals with liver disease, the spleen becomes enlarged when blood flow through the liver is impeded. This tends to store more platelets, in turn reducing the number in circulation.

Chemistry Panel

This test is usually called Chem followed by a number (Chem-7, Chem-16, Chem-25), depending on how many tests are ordered. It is commonly used to determine whether someone has diabetes, a kidney or liver condition, electrolyte imbalance, or elevated cholesterol or triglyceride levels.

Additional testing may include blood proteins, calcium, phosphorus, serum iron and muscle enzymes. The number of tests included in a panel differs for each laboratory. Primary components in a Chem test include:

1. **Glucose (blood sugar)** – Usually elevated with diabetes or medications such as steroids. It may be low in patients who have problems with their pancreas or liver.
2. **Blood Urea Nitrogen (BUN)** – Levels are elevated with kidney problems, low in patients with liver disease. Levels may also be low in response to pregnancy and certain diets.
3. **Creatinine** – Usually elevated with kidney problems.
4. **Electrolytes**
 - Sodium is usually elevated with dehydration from different causes. It may be low in patients who sweat profusely or are on a water pill.
 - Potassium levels may increase with kidney problems, potassium supplements or certain water pills or decrease in patients with kidney problems, vomiting or diarrhea.
5. **Liver Function Tests**
 - Alanine aminotransferase (ALT) is an enzyme produced in hepatocytes. ALT levels in the blood increase in conditions in which hepatocytes are excessively damaged or die. As cells are damaged, ALT leaks into the bloodstream. All types of hepatitis (viral, alcoholic, medication-induced, etc.) can lead to elevations in serum ALT activity.
 - Aspartate aminotransferase (AST) is an enzyme similar to ALT but less specific for liver disease. It is produced in muscle and can be elevated in other conditions. In many cases of liver inflammation, ALT and AST activities are elevated roughly in a 1:1 ratio.
 - Alkaline phosphatase is a family of related enzymes produced in the bile ducts, intestine, kidney and bone. An elevation in the level of serum alkaline phosphatase, especially in the setting of normal or only modestly elevated ALT and AST activities, suggests disease of the bile ducts. Alkaline phosphatase can also be increased in some bone disorders. It may also be elevated in growing children and early adulthood up to age 22.
 - Gamma glutamyltranspeptidase (GGT) is an enzyme produced in the bile ducts and elevated in the serum of patients with bile duct disease. GGT may be elevated in virtually any liver disease and sometimes in normal individuals. GGT is also induced by many medications and alcohol. For example, serum activity may be increased in heavy drinkers, even in the absence of liver damage or inflammation. Some people have higher levels of GGT because of a genetic predisposition. Levels also may be increased in conditions known as fatty liver when the liver is actively metabolizing high lipid levels.
 - Bilirubin is the major breakdown product that results from the destruction of old red blood cells. Many different liver diseases, as well as

conditions other than liver diseases, can cause serum bilirubin concentration to be elevated.

6. **Albumin** is a protein that circulates in the bloodstream. It is synthesized by the liver and secreted into the blood. Low serum albumin concentrations may indicate poor liver function, malnutrition, some kidney diseases and other rare conditions.
7. **Uric Acid** is a byproduct of cell metabolism and can sometimes cause gout.
8. **Lipid Panel** is a blood test that measures total cholesterol and triglycerides and further breaks cholesterol down into its components: HDL and LDL. The clinician uses this to help estimate heart disease and stroke risk.

Urinalysis

This test, referred to as UA, is used to check for urinary tract infections and the presence of blood, sugar or protein in the urine. Different components of urinalysis include:



- **White Blood Cells** – Usually indicate presence of possible infection.
- **Nitrites** – A positive test may indicate infection.
- **Leukocyte Esterase** – A positive test may indicate infection.

- **Ketones** – Usually seen in diabetes, fasting, dieting or starvation.
- **Glucose** – Usually detected when blood sugar is over 180; indicates possible presence of diabetes.
- **Red Blood Cells** – May indicate bleeding in the urinary tract, infection, or may be related to menstruation. The cause should always be determined, especially in men.
- **Protein** – A positive test may be seen with kidney problems, diabetes and bone cancer, among other causes.
- **Urobilinogen** – A positive test may be associated with liver disease, breakage of blood cells and some medications.

For More Information

If you have questions about these and other medical terms and diagnostic tests, please contact the clinical team at WorkCare or your personal health care provider.