

Clinical laboratory tests used in the evaluation of disease states and interpretation of test results

HAEMATOLOGICAL

The complete blood count is a test that evaluates the cells that circulate in blood. Blood consists of three types of cells suspended in fluid called plasma: White blood cells (WBCs), red blood cells (RBCs) and Platelets (PLTs).

Test	Examples of causes of low result	Examples of causes of high result
Platelet count	Known as thrombocytopenia- Viral infection, Platelet autoantibody, Cirrhosis, Sepsis	Known as thrombocytosis: Cancer, Rheumatoid arthritis, inflammatory bowel disease, Iron deficiency anemia, Hemolytic anemia
Mean platelet volume	Indicates average size of platelets in small; older platelets are generally smaller than younger ones and a low MPV may mean that a condition is affecting the production of platelets by the bone marrow	Indicates a high number of larger, younger platelets in the blood; this may be due to the bone marrow producing and releasing platelets rapidly into circulation
Platelet distribution width	Indicates uniformity in size of platelets	Indicates increased variation in the size of the platelets, which may mean that a condition is present that is affecting platelets.
Monocytes count	Chronic infections, tuberculosis, rheumatoid arthritis	Bone marrow damage or failure
Basophils count	Rare allergic reactions, inflammation, chronic myeloid leukemia	As with eosinophils, numbers are normally low in the blood, usually not medically significant.
ESR	Congestive heart failure, Hypofibrinogenemia	Pregnancy, menstruation, older age, autoimmune diseases and infections
Haemoglobin	Bleeding from wound, hemorrhoids, frequent blood donation, menorrhagia (heavy menstrual bleeding)	COPD, Emphysema, congestive heart disease
RBC	Chronic kidney disease, hemolysis, blood vessel injury.	Kidney tumors, COPD, Emphysema