
Lab Dept: Hematology

Test Name: CBC, PLATELET WITH DIFFERENTIAL

General Information

Lab Order Codes: CBC

Synonyms: Complete Blood Count (CBC) with Differential; Complete Blood Count (CBC); CBC, Hemogram with Differential; Complete Blood Count (CBC), Platelet with Differential (PLTC)

CPT Codes: 85025 – complete (CBC) automated (Hgb, Hct, RBC, WBC, and PLT count) and differential

Test Includes: WBC, RBC, HGB, HCT, MCV, MCH, MCHC, RDW, Platelet Count, MPV, WBC Differential

Logistics

Test Indications: Evaluation of anemia, leukemia, reaction to inflammation and infections, peripheral blood cell characteristics, state of hydration, polycythemia, hemolytic disease of the newborn, and ABO incompatibilities.

Lab Testing Sections: Hematology

Phone Numbers: MIN Lab: 612-813-6280

STP Lab: 651-220-6550

Test Availability: Daily, 24 hours

Turnaround Time: 4 hours

Special Instructions: N/A

Specimen

Specimen Type: Whole blood

Container: EDTA Lavender top tube, EDTA Lavender Microtainer®

Draw Volume: Lavender (EDTA) 2 mL Vacutainer tube: Minimum fill volume of **1 mL** is required. Allow the tube to fill until the vacuum is exhausted, and blood flow ceases.
Lavender (EDTA) Microtainer® tube: Minimum volume of **0.5 mL** is required. To be used for neonates, collected volumes <1.0 mL, or when a capillary (skin puncture) collection is required.

Processed Volume:	Minimum: 0.5 mL blood
Stability:	Optimal when run within in 4 hours of collection. Stable 48 hours refrigerated for CBC parameters. Stable 24 hours refrigerated for differential.
Collection:	Routine venipuncture or capillary draw
Special Processing:	Lab Staff: Test is run on whole blood. Do Not centrifuge
Patient Preparation:	None
Sample Rejection:	Improper tube; clotted sample; underfilled tube; overfilled tube; mislabeled or unlabeled specimen

Interpretive

Reference Range: Age and Sex Dependent; [CBC Reference Value Table](#)

Critical Values:

Test:	Value	Hem/Onc Clinics
Hematocrit:	<21% or >65%	None
Hemoglobin:	<7.0 gm/dL	<5.0 gm/dL
Platelets:	<50,000 or >1,000,000	<5,000
WBC:	Newborn: <5,000 or >35,000	None
	Others: <2,000 or >25,000	None
Differential/ Morphology:	Presence of Blasts; however, if the presence of Blasts has been reported within the last 30 days no notification is necessary.	Presence of Blasts; however, if the presence of Blasts has been reported within the last 30 days no notification is necessary.

Limitations: Characteristics that may affect results include: lipemia (or patients receiving lipids), icterus and cold agglutinins.

Methodology: A combination of techniques, including fluorescence flow cytometry, hydrodynamic focusing, impedance, and non-cyanide SLS hemoglobin measurement

Contraindications: Differential will not be done on samples with a WBC $<0.6 \times 10^3/\mu\text{L}$

References: Nathan, DG, et al (1987) Hematology of Infancy and Childhood, WB Saunders pp.1680-1688

Normal Reference Range Study (1994) Children's Hospitals and Clinics, Minneapolis and St Paul, MN, Hematology Laboratory.

Updates: 3/21/2011: Critical value statement for Blasts previously listed as "Presence of Blasts".

11/12/2015: Updated differential WBC requirements.

9/26/2018: Update to lipemic sample information.

4/1/25: Updated CPT code, methodology, and volume requirements.