Common Laboratory Values

CBC

Test	Normal value	Function	Significance
Hemoglobin	12-18 g/100 mL	Measures oxygen carrying capacity of blood	Low: hemorrhage, anemia High: polycythemia
Hematocrit	35%-50%	Measures relative volume of cells and plasma in blood	Low: hemorrhage, anemia High: polycythemia, dehydration
Red blood cell	4-6 million/mm^3	Measures oxygen-carrying capacity of blood	Low: hemorrhage, anemia High: polycythemia, heart disease, pulmonary disease
White blood cell		Measures host defense against inflammatory agents	Low: aplastic anemia, drug toxicity, specific infections High: inflammation, trauma, toxicity, leukemia
Infant	8,000-15,000/mm^3		
4-7 y	6,000-15,000/mm^3		
8-18 y	4,500-13,500/mm^3		

Diffential Count

Test	Normal value	Significance
Neutrophils	54%-62%	Increase in bacterial infections, hemorrhage, diabetic acidosis
Lymphocytes	25%-30%	Viral and bacterial infections, acute and chronic lymphocytic leukemia, antigen reaction
Eosinophils	1%-3%	Increase in parasitic and allergic conditions, blood dyscrasias, pernicious anemia
Basophils	1%	Increase in types of blood dyscrasias
Monocytes	0%-9%	Hodgkin's disease, lipid storage disease, recovery from severe infections, monocytic leukemia

Absolute Neutrophil Count (ANC)

Calculation	Normal value	Significance
$\frac{(\%\ \text{Polymorphonuclear Leukocytes} + \%\ \text{Bands}) \times \text{Total White Cell Count}}{100}$	>1500	<1000 Patient at increased risk for infection; defer elective dental care

Bleeding Screen

Test	Normal value	Function	Significance
Prothrombin time	1-18 sec	Measures extrinsic	Prolonged in liver disease, impaired Vitamin K production, surgical trauma with blood loss
Partial thromboplastin time	By laboratory control	Measures intrinsic clotting of blood, congenital clotting disorders	Prolonged in hemophilia A, B, and C and Von Willebrand's disease
Platelets	140,000-340,000/mL	Measures clotting potential	Increased in polycythemia, leukemia, severe hemorrhage; decreased in thrombocytopenia purpura
Bleeding time	1-6 min	Measures quality of platelets	Prolonged in thrombocytopenia
International Normalized Ratio (INR)	Without anticoagulant therapy: 1; Anticoagulant therapy target range: 2-3	Measures extrinsic clotting function	Increased with anticoagulant therapy

Urinalysis

Test	Normal value	Function	Significance
Volume	1,000-2,000 mL/day		Increase in diabetes mellitus, chronic nephritis
Specific gravity	1.015-1.025	Measures the degree of tubular reabsorption and dehydration	Increase in diabetes mellitus; decrease in acute nephritis, diabetes insipidus, aldosteronism
pH	6-8	Reflects acidosis and alkalosis	Acidic: diabetes, acidosis, prolonged fever Alkaline: urinary tract infection, alkalosis
Casts	1-2 per high power field		Renal tubule degeneration occurring in cardiac failure, pregnancy, and hemogobinuric-nephrosis

Electrolytes

Test	Normal value	Function	Significance
Sodium (Na)	135-147 mEq		Increase in Crushing's syndrome
Potassium (K)	3.5-5 mEq		Increase in tissue breakdown
Bicarbonate (HCO_3)	24-30 mEq	Reflects acid-base balance	
Chloride (Cl)	100-106 mEq		Increase in renal disease and hypertension