

NCCPA LABORATORY VALUES

(Normal values for healthy adults)

REFERENCE RANGE

BLOOD, PLASMA, SERUM

Alanine aminotransferase (ALT, GPT, SGPT)	8-20 U/L
Alkaline phosphatase	20-70 U/L
Ammonia	10-80 µg/dL
Amylase	25-125 U/L
Aspartate aminotransferase (AST, GOT, SGOT)	8-20 U/L
Brain natriuretic peptide (BNP)	<50 pg/mL
Bicarbonate	22-28 mEq/L
Bilirubin (Total // Direct).....	0.1-1.0 mg/dL // 0.0-0.3 mg/dL
Calcium	8.4-10.2 mg/dL
Chloride	95-105 mEq/L
C-reactive protein	<5 mg/L
C-reactive protein, high sensitivity.....	Low: <1.0 mg/L Average: 1.0-3.0 mg/L High: >3.0 mg/L
Creatine kinase	Male: 25-90 U/L Female: 10-70 U/L
Creatinine	0.6-1.2 mg/dL
Fibrinogen	200-400 mg/dL
Ferritin	Male: 15-200 ng/mL Female: 12-150 ng/mL
Folate	3-20 ng/mL
Follicle-stimulating hormone	Male: 4-25 mIU/mL Female: premenopause 4-30 mIU/mL midcycle peak 10-90 mIU/mL postmenopause 40-250 mIU/mL
Gamma-glutamyl transferase	<30 U/L
Gases, arterial blood (room air)	
pH.....	7.35-7.45
pCO ₂	33-45 mmHg
pO ₂	75-105 mmHg
HCO ₃ ⁻	22-26 mEq/L
Glucose	Fasting: 70-99 mg/dL 2-h postprandial: <120 mg/dL
Hemoglobin A _{1c}	Up to 6% of total hemoglobin
Iron	50-170 µg/dL
Lactate.....	0.5-2.0 mEq/L
Lactate dehydrogenase (LDH)	45-90 U/L
Luteinizing hormone	Female: follicular phase 1-18 mU/mL luteal phase 0.4-20 mU/mL midcycle 24-105 mU/mL postmenopausal 15-62 mU/mL
Lipase.....	0-160 U/L

Lipids

	Total Cholesterol	LDL Cholesterol	HDL Cholesterol	Triglycerides
Desirable	<200 mg/dL	<130 mg/dL	>60 mg/dL	<150 mg/dL
Borderline	200-239 mg/dL	130-159 mg/dL	35-60 mg/dL	–
Undesirable	≥240 mg/dL	≥160 mg/dL	<35 mg/dL	–

Magnesium.....	1.5-2.0 mEq/L
Parathyroid hormone.....	11-54 pg/mL
Phosphate	3.0-4.5 mg/dL
Potassium.....	3.5-5.0 mEq/L
Procalcitonin (PCT)	<0.05 µg/L
Prolactin	<20 ng/mL
Protein	
Total	6.0-7.8 g/dL
Albumin	3.5-5.5 g/dL
Globulin	2.3-3.5 g/dL
Sodium	136-145 mEq/L
Thyroid-stimulating hormone.....	0.5-5.0 µU/mL
Thyroxine (T ₄).....	5-12 µg/dL
Free thyroxine (T ₄).....	0.9-2.1 ng/dL
Total iron-binding capacity.....	250-370 µg/dL

REFERENCE RANGE

BLOOD, PLASMA, SERUM (continued)

Triiodothyronine (T ₃).....	115-190 ng/dL
Free triiodothyronine (T ₃).....	230-420 pg/dL
Triiodothyronine (T ₃), resin uptake	25-35%
Troponin I.....	0-0.4 µg/L
Troponin T.....	0-0.1 µg/L
Urea nitrogen (BUN).....	7-18 mg/dL
Uric acid.....	3.0-8.2 mg/dL
Vitamin B ₁₂	200-600 pg/mL

CEREBROSPINAL FLUID

Cell count.....	0-5 cells/mm ³
Chloride.....	118-132 mEq/L
Gamma globulin.....	3-12% total proteins
Glucose.....	40-70 mg/dL
Opening pressure.....	70-180 mmH ₂ O
Protein, total.....	<40 mg/dL

SYNOVIAL FLUID

Appearance.....	Clear, light yellow
Glucose.....	Nearly equal to serum
PMNs.....	<25%
Red blood cells.....	0/µL
White blood cells.....	<200/µL
Viscosity.....	High

HEMATOLOGIC

Red blood cell count.....	Male: 4.3-5.9 million/mm ³ Female: 3.5-5.5 million/mm ³
Red blood cell distribution width.....	11.5-14.5%
Erythrocyte sedimentation rate (Westergren).....	Male: 0-15 mm/hr Female: 0-20 mm/hr
Hematocrit.....	Male: 41-53% Female: 36-46%
Hemoglobin.....	Male: 13.5-17.5 g/dL Female: 12.0-16.0 g/dL
White blood cell count and differential	
White blood cell count.....	4500-11,000/mm ³
Segmented neutrophils.....	54-62% (2430-6820/mm ³)
Bands.....	3-5% (135-550/mm ³)
Eosinophils.....	1-3% (45-330/mm ³)
Basophils.....	0-0.75% (0-83/mm ³)
Lymphocytes.....	25-33% (1125-3630/mm ³)
Monocytes.....	3-7% (135-770/mm ³)
Mean corpuscular hemoglobin.....	25.4-34.6 pg/cell
Mean corpuscular hemoglobin concentration.....	32-36 g/dL
Mean corpuscular volume.....	80-100 µm ³
Partial thromboplastin time.....	25-40 seconds
Platelet count.....	150,000-400,000/mm ³
Prothrombin time.....	11-15 seconds
International normalized ratio (INR).....	1
Reticulocyte count.....	0.5-1.5% of red cells
Thrombin time.....	7-12 seconds

SWEAT

Chloride.....	0-35 mmol/L
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URINE

Creatinine clearance.....	Male: 97-137 mL/min Female: 88-128 mL/min
Sodium.....	60-260 mEq/24 hr
Specific gravity.....	1.002-1.028
Protein.....	Male: 0-60 mg/day Female: 0-90 mg/day