

VANDERBILT MEDICAL LABORATORIES

CLINICAL LABORATORY CRITICAL VALUES, JANUARY 2025		
BLOOD BANK		
Hemolytic transfusion reactions		
Acute hemolysis detected during a Transfusion Reaction Workup		
Positive culture of a unit recently transfused (within 1 week)		
Incompatible crossmatch completed after emergency issue of uncrossmatched RBC		
Unexpected antibody in a patient in the OR		
Issue or transfusion of: <ul style="list-style-type: none"> • the wrong unit • an incompatible unit • incorrectly labeled (wrong patient) unit 		
Positive Direct Antibody Testing on a neonatal venous or cord blood specimen		
Unacceptable sample because of wrong blood-in-tube identified by comparison with historical type, and after type confirmation.		
TEST		
CLINICAL CHEMISTRY	LOW	HIGH
ADULT		
Arterial or capillary blood pCO ₂		70 mm Hg
Arterial or capillary blood pH	7.15	7.6
Arterial or capillary blood pO ₂	40 mmHg	
Bicarbonate (Total Carbon Dioxide)	10 mmol/L	40 mmol/L
Calcium	6.0 mg/dL	13.0 mg/dL
Ionized Calcium	3.0 mg/dL	6.5 mg/dL
Glucose, > 1year	50 mg/dL	500 mg/dL
Phosphorus	1.0 mg/dL	10.0 mg/dL
Potassium	2.5 mEq/L	6.2 mEq/L
Sodium	120 mEq/L	160 mEq/L
Magnesium	<1 mg/dL	>5 mg/dL
Osmolality	250 mosm/Kg	320 moms/Kg
Glucose (tolerance)	<60 mg/dL	>500 mg/dL
CSF Glucose	<20 mg/dL	
CSF Protein		>300 mg/dL
FreeT4		>3.5 ng/dL
High Sensitivity Cardiac Troponin T		≥52 ng/L, first positive within 48 hours

CLINICAL LABORATORY CRITICAL VALUES, JANUARY 2025

PEDIATRIC

(Pediatric Critical Values are the same as adults, except for the following)

Ammonia		>150 mcmol/L
Total Bilirubin: Neonates only (Less than or equal to 30 days)		>18 mg/dL
Glucose, newborn <30 days	30 mg/dL	200 mg/dL
Glucose, newborn 30 days – 1 year	30 mg/dL	300 mg/dL
Potassium, newborn <10 days	2.0 mEq/L	7.0 mEq/L
Sodium, newborn <30 days	125 mEq/L	160 mEq/L

THERAPEUTIC DRUG MONITORING/TOXICOLOGY

Digoxin		4.0 ng/mL
Lithium		2.0 mEq/L
Ethanol (Ethanol, ETH, Blood alcohol)		400 mg/dL
Acetaminophen (ACE, Tylenol)		70 mcg/mL
Salicylates (USA, Salicylates screen)		50 mg/dL
Ethylene Glycol (EG, Antifreeze)		5 mg/dL if initial sample
Iso-propanol (ISP, Rubbing alcohol)		10 mg/dL if initial sample
Methanol (MTH, Wood Alcohol)		10 mg/dL if initial sample
Theophylline (THE, Elixophyllin)		25 mcg/mL
Phenytoin (Dilantin)		40 mcg/mL
Carbamazepine (Tegretol)		20 mcg/mL
Phenobarbital		60 mcg/mL
Valproic acid (Depakene, Depakote, Valproate)		200 mcg/mL
Vancomycin Peak level		>60 mcg/mL
Vancomycin Random level		>60 mcg/mL
Vancomycin Trough level		>30 mcg/mL
Lidocaine		>5 mg/L

COAGULATION

Prothrombin Time/INR (PT)		INR > 6.0
PTT - Partial Thromboplastin Time (aPTT, Activated Partial Thromboplastin Time)		≥200 sec.
Fibrinogen	≤60 mg/dL	
Unfractionated heparin		>1 U/ml
Low molecular weight heparin		>1.7 U/ml

CLINICAL LABORATORY CRITICAL VALUES, JANUARY 2025		
HEMATOLOGY		
Hematocrit (Packed cell volume, PCV)	<18 %	>69% if <2 mo of age and >54% if >2 mo of age, when no previous within 7 days
Hemoglobin	<6 gm/dL	
White Blood Cell (WBC)	<1000/ μ L and no previous within 30 days	>100,000 / μ L and no previous within 30 days
Platelets (PLT)	<30,000/ μ L and no prev. within 7 days. <5000/ μ L always called regardless of previous	
Peripheral smear differential	Blasts - Adults >5%, Blasts - Children >10%	
Peripheral smear morphology	Red cell fragments with decreased platelets on smear. (<50,000 or a 50% change)	
CSF (Cerebrospinal Fluid)	Presence of Cryptococcal-like yeast or intracellular bacteria	