

CLINICAL LABORATORY CRITICAL VALUES, OCTOBER 2024 VANDERBILT MEDICAL LABORATORIES		
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: • 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	LOW	HIGH
CLINICAL CHEMISTRY		
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)	10mmol/L	40mmol/L
Calcium	6.0 mg/dL	13.0 mg/dL
Ionized Calcium	3.0mg/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	6.2mEq/L
Sodium	120 mEq/L	160 mEq/L
Magnesium	<1 mg/dL	>5 mg/dL
Osmolality	250 mosm/Kg	320 mosm/Kg
Glucose (tolerance)	<60 mg/dL	>500 mg/dL
CSF Glucose	<20 mg/dL	
CSF Protein		>300mg/dL
FreeT4		>3.5 ng/dL
High Sensitivity Cardiac Troponin T		≥ 52 ng/L, first positive within 48 hours
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)		70mcg/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		≥ 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
HEMATOLOGY		
Hematocrit (Packed cell volume, PCV)	< 18 %	> 69 and <2 mo of age, >54 and > 2mo of age and 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/ul 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