

Critical Values

The values listed below are for tests performed at Meriter Laboratories (ML) and other reference laboratories. On a ML report, any numerical values outside the reference range are indicated by an “L” (low) or an “H” (high) to the right of the result number. Where such a value is considered critical, the letter “C” will precede the “L” or “H.” An abnormal textual result is indicated by an “AB” to the right of the result. Any laboratory test value which is life-threatening and probably requires medical intervention within a short period of time is considered a critical value. It is ML’s policy to telephone these results to our clients, as well as critical results received from referral testing laboratories. A list of critical values follows.

Analyte	Critically Low Value	Critically High Value
Acetaminophen (Tylenol®)		≥50 mcg/mL
Activated Partial Thromboplastin Time (APTT), Blood or Plasma		>200.0 seconds
Alcohol (Medical/Non-Legal), Plasma		≥300 mg/dL
Amikacin, Peak, Plasma ≥18 years		>35.0 mcg/mL
Amikacin, Trough, Plasma ≥18 years		>5.0 mcg/mL
Amitriptyline and Nortriptyline		≥300 ng/mL
Amylase, Plasma		≥400 U/L
Bilirubin, Total, Plasma ≤2 Days 3 Days - ≤7 days >7 days		≥12.0 mg/dL ≥15.0 mg/dL ≥10.0 mg/dL
Bilirubin, Total, Whole Blood ≤2 Days 3 Days - ≤7 days >7 days		≥12.0 mg/dL ≥15.0 mg/dL ≥10.0 mg/dL
Blood Urea Nitrogen (BUN), Plasma		≥100 mg/dL
Calcium, Ionized, Plasma	≤3.40 mg/dL	≥5.62 mg/dL
Calcium, Plasma	≤6.0 mg/dL	≥13.0 mg/dL
Calcium, Serum	≤6.0 mg/dL	≥13.0 mg/dL
Carbamazepine (Tegretol®), Plasma		≥15 mcg/mL
Carbon Monoxide (CO), Carboxyhemoglobin, Venous		≥20.0% of CO Hb ₂
Creatine Kinase (CK), Total, Plasma		≥400 U/L
Creatinine, Plasma		≥10.0 mg/dL
Creatinine, Whole Blood		≥10.0 mg/dL
Cord Blood Gases, pH	≤7.0	
Cord Blood Gases, Base Excess	≤ -12	
Digoxin, Plasma		≥2.5 ng/mL
Gentamicin, Peak, Plasma		≥12.0 mcg/mL
Gentamicin, Trough, Plasma		≥3.0 mcg/mL
Glucose, Plasma ≤3 months >3 months	≤35 mg/dL ≤45 mg/dL	≥325 mg/dL ≥450 mg/dL

Analyte	Critically Low Value	Critically High Value
Glucose, Meter Correlation ≤3 months >3 months	≤35 mg/dL ≤45 mg/dL	≥325 mg/dL ≥450 mg/dL
Glucose, Whole Blood ≤3 months >3 months	≤35 mg/dL ≤45 mg/dL	≥325 mg/dL ≥450 mg/dL
Hematocrit, Blood	≤21.0%	
Hemoglobin, Blood	≤7.0 g/dL	>20 g/dL
Heparin Induced Platelet Antibody, Plasma		All positive or borderline results
Hepatitis B Surface Antigen (HBsAg), Priority Weekend, Serum		All positive results
Hepatitis B Surface Antigen (HBsAg), Serum Inpatient only		All positive results
Imipramine and Desipramine		≥300 ng/mL
INR (Prothrombin Time [PT]), Blood or Plasma		≥4.5
Lactate, Arterial		>4.0 mmol/L
Lactate, Venous		>4.0 mmol/L
Lithium, Serum		≥2.0 mmol/L
Magnesium, Plasma	≤1.0 mg/dL	≥8.0 mg/dL
Nortriptyline		≥300 ng/mL
Osmolality, Plasma or Serum	≤240 mOsm/kg	≥340 mOsm/kg
Phenobarbital, Plasma		≥50 mcg/mL
Phenytoin (Dilantin®), Total, Plasma		≥30 mcg/mL
Phenytoin, Unbound, Serum		>3.0 mcg/mL
Phosphorus, Plasma ≤10 days >10 days	≤1.0 mg/dL ≤1.0 mg/dL	≥12.0 mg/dL ≥8.0 mg/dL
Platelet Count, Blood	≤25 thou/μL	≥1,000 thou/μL
Potassium, Plasma	≤2.8 mmol/L	≥6.0 mmol/L
Potassium, Serum	≤2.8 mmol/L	≥6.0 mmol/L
Potassium, Whole Blood	≤2.8 mmol/L	≥6.0 mmol/L
Salicylate, Plasma		≥50 mg/dL
Sodium, Plasma	≤120 mmol/L	≥155 mmol/L
Tacrolimus, Whole Blood		>15 ng/mL
Theophylline, Plasma		≥20 mcg/mL
Thiopental, Serum Thiopental Pentobarbital		>5.0 mg/dL 1.0-2.0 mg/dL
Troponin I (Enhanced Sensitivity), Plasma		≥0.135 ng/mL

Analyte	Critically Low Value	Critically High Value
Tobramycin, Peak, Plasma		≥12.0 mcg/mL
Tobramycin, Trough, Plasma		≥3.0 mcg/mL
Valproate, Unbound, Serum		>150.0 mcg/mL
Valproate (Valproic Acid), Plasma		≥150.0 mcg/mL
Vancomycin, Mid-Point, Plasma		≥50.0 mcg/mL
Vancomycin, Peak, Plasma		≥60.0 mcg/mL
Vancomycin, Random, Plasma		≥50.0 mcg/mL
Vancomycin, Trough, Plasma		≥20.0 mcg/mL
WBC (White Blood Count), Blood	<1.0 thou/μL	>50.0 thou/μL

Microbiology

For certain serious bacterial infections, speed in initiating proper antibiotic therapy can significantly influence the course of the disease. As soon as the laboratory becomes aware of a serious or potentially serious infection fitting the circumstances below, the physician or source facility will be telephoned.

Critical Results	
Blood Culture	All positive cultures
Cerebrospinal Fluid	All bacteria or fungi detected by Gram stain or culture
Lower Respiratory	All positive acid-fast bacilli smears and any positive cultures for <i>Mycobacterium tuberculosis</i>
Normally sterile body fluids (eg, joint, pericardial, or tissue biopsies)	All bacteria or fungi detected by Gram stain or culture

Other important pathogens will be reported by telephone when detected. Even though they may not cause life-threatening infections, they may require Isolation Precautions or change in treatment and are to be reported to the physician.

These include:

Feces	Positive <i>Clostridium difficile</i> Positive <i>Escherichia coli</i> O157 or positive shiga toxin EIA tests <i>Salmonella</i> <i>Shigella</i> <i>Campylobacter</i> Positive <i>Norovirus</i>
Hepatitis B Surface Antigen (HBsAg)	All positive results
Lower respiratory	Positive cultures for mycobacteria species (not <i>Mycobacterium tuberculosis</i>)
Multi-resistant organisms isolated	Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA) and vancomycin-resistant <i>Enterococcus</i> (VRE)
Nasopharyngeal Inpatients or Resident Facilities	Positive pertussis tests, respiratory syncytial virus (RSV), or influenza
Group A Strep (Rapid Strep) and Strep Screen Cultures	All positive results inpatient and outpatient excluding Emergency Room Emergency room results print to stat printer
<i>Legionella</i>	All positive results regardless of source