

Critical Values List

Arterial Blood Gases

Test	Value	Comments
pH	≤ 7.25 or ≥ 7.6	
PCO ₂	≤ 20 or ≥ 60 mmHg	
PO ₂	≤ 40 mmHg	
Hemoglobin	≤ 7.0g dL	

Chemistry

Test	Value	Comments
Bicarbonate (Total CO ₂)	< 10 or > 40 mmol/L	
Bilirubin, Total	> 15 mg/dL	
Calcium, Ionized	≤ 0.78 or ≥ 1.58 mmol/L	
Calcium, Total	< 6.0 or > 13.0 mg/dL	
Glucose	< 55 or > 450 mg/dL	
Iron	> 500 ug/dL	
Glucose, WB POC	<60 or > 450 mg/dL	
Glucose, WB, neonatal POC	< 40 or > 200 mg/dL	
Magnesium	< 1.0 or > 9.0 mg/dL	
Phosphorus	< 1.0 or > 9.0 mg/dL	
Potassium	< 3.0 or > 6.1 mmol/L	
Sodium	< 120 or > 160 mmol/L	
Troponin I	≥ 0.30 ng/mL	

Coagulation

Test	Value	Comments
Prothrombin Time	≥ 46.3 seconds	When ordered as part of a panel, other criteria apply.
INR	≥ 5.0	
PTT	≥ 85 seconds	When ordered as part of a panel, other criteria apply.
Fibrinogen	< 100 mg/dL	
Factors 2, 5, 8, 9, 11	≤ 5%	When ordered as part of a panel, other criteria apply.
Factor 7	≤ 6%	
Factor 10	≤ 7%	
Factor 13, Activity	≤ 5%	

Hematology

Test	Value	Comments
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Hematocrit	≤21% or ≥65%	
Hemoglobin	≤7 or > 21.0 g/dL	
Platelet Count	≤20 or ≥1000 x 10 ³ /μL	
White Blood Cell Count	≤2.0 or ≥40 x 10 ³ /μL	

Infectious Disease

Test	Value	Comments
Detection of any infectious agent	By	
Blood	Positive culture, smear, rapid antigen, or nucleic acid test (NAT) detection (not speciation)	AFB, bacterial, fungal, parasite
Bone marrow	Positive culture or smear	AFB, bacterial, fungal, viral, parasite
Body fluid (except gastrointestinal fluid or urine sources)	Positive culture or smear	AFB, bacterial, fungal, viral, parasite
CSF or other central nervous system specimen	Positive culture, smear, or rapid antigen	AFB, bacterial, fungal, viral (except Enterovirus), parasite
CSF or other central nervous system specimen	NAT	All pathogens except Enterovirus, Parechovirus, EBV, HIV, JC virus, CMV, HHV6, and parvovirus
Eye/ocular (including multi-site swabs with eye source)	Positive culture, smear, or NAT	AFB, bacterial, fungal, viral, parasite
Tissue	Positive culture or smear	AFB, bacterial, fungal, viral, parasite
<i>Mycobacterium sp</i> , acid fast bacillus (AFB)	First positive stain	90 days
	First positive culture	90 days
<i>Mycobacterium tuberculosis</i>	Identification, positive NAT and resistance to primary anti-tuberculosis agents (INF and RIF)	90 days
Any clinically significant mold (excluding contaminants)	Positive culture or NAT from original specimen	BAL, bronch wash, sinus or any sterile site
Any mold	Positive culture or NAT from original specimen	Bone Marrow Transplant locations at U of U hospital
Histoplasma capsulatum, Blastomyces dermatididis, Penicillium marneffeii, Coccidioides immitis, Cryptococcus	Identification by any method	
Cryptococcus	First positive antigen	90 days
Select agents and other highly pathogenic organisms: <i>Bacillus anthracis</i> , <i>Brucella spp.</i> , <i>Burkholderia mallei</i> , <i>Burkholderia pseudomallei</i> , ,	Identification by any method	

Infectious Disease

Test	Value	Comments
Detection of any infectious agent	By	
<i>Francisella tularensis</i> , <i>Yersinia pestis</i> , and <i>C. diphtheriae</i> , <i>Salmonella typhi</i> , <i>Vibrio cholera</i>		
5- fluorocytosine	≥ 100 µg/mL	

Toxicology

Test	Value	Comments
Acetone	> 100 mg/dL	
Acetaminophen	> 150 µg/mL > 40 µg/mL	4 hours post ingestion; 12 hours post ingestion
Amikacin	> 30 µg/mL	Peak—draw 30 minutes post infusion
	> 8 µg/mL	Trough—draw 30 minutes before infusion
Caffeine (Neonate)	> 20 µg/mL	
Cyanide	> 100 µg/mL	
Digoxin	> 2.4 ng/mL	Trough—draw 8–12 hours post dose; minimum post dose 6 hours
Ethanol	> 250 mg/dL	
Ethylene Glycol	> 20 mg/dL	
Gentamicin	> 12 µg/mL	Peak—draw 30 minutes post infusion
	> 2 µg/mL	Trough—draw 30 minutes before infusion
Isopropanol	> 50 mg/dL	
Methanol	> 20 mg/dL	
Lidocaine	> 9 µg/mL	> 30 minutes post IV dose after steady state (5–10 hours)
Lithium	≥ 1.6 mmol/L	Trough
Pentobarbital	> 10 µg/mL	
Primidone	> 15 µg/mL	
Procainamide NAPA	> 12 µg/mL	
	> 35 µg/mL	Trough
Quinidine	> 10 µg/mL	Trough
Salicylate	> 300 µg/mL or > 30 mg/dL	
TCA—Tricyclics	> 400 ng/mL	
Tobramycin	> 12 µg/mL	Peak—draw 30 minutes post infusion

Toxicology

Test	Value	Comments
	> 2 ug/mL	Trough—draw 30 minutes before infusion
Vancomycin	> 80 µg/mL	Trough
	> 80 µg/mL	Peak (not recommended)

Trace and Toxic Elements

Test	Value	Comments
Lead	≥ 45 µg/dL (birth–18 years)	Blood
	≥ 70 µg/dL (≥ 19 years)	Blood

Transfusion Services

Test	Value	Comments
Antibody Screen	Positive	
DAT (Direct Coombs)	Positive	