

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 µg/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	≥ 44.0 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%	

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Hematology

Test	Value	Comments
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 infectious agent in	by	
Blood	Positive culture, smear, rapid antigen, or nucleic acid test (NAT) detection (not speciation)	AFB, bacterial, fungal, parasite (except anaplasma, ehrlichia, and babesia)
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	Positive culture, smear, or NAT	AFB, bacterial, fungal, viral, parasite
Tissue	Positive culture or smear	AFB, bacterial, fungal, viral, parasite
Detection of infectious agent	by	
<i>Mycobacterium sp</i> , acid fast bacillus (AFB)	First positive stain	Within the last 90 days
	First positive culture	Within the last 90 days
<i>Mycobacterium tuberculosis</i>	Identification, positive NAT and resistance to primary anti-tuberculosis agents (INF and RIF)	Within the last 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
<i>Histoplasma capsulatum</i> , <i>Blastyomyces dermatitidis</i> , <i>Penicillium marneffe</i> , <i>Coccidioides immitis</i> , <i>Cryptococcus neoformans</i> and <i>Cryptococcus gattii</i>	Identification by culture or NAT	
<i>Cryptococcus</i>	First positive antigen	Within the last 90 days

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Infectious Disease *continued*

Test	Value	Comments
Nocardia	Positive culture	
Select agents and other highly pathogenic organisms: <i>Bacillus anthracis</i> , <i>Brucella spp.</i> , <i>Burkholderia mallei</i> , <i>Burkholderia pseudomallei</i> , <i>Francisella tularensis</i> , <i>Yersinia pestis</i> , and <i>C.orynebacterium diphtheriae</i> , <i>Salmonella typhi</i> , <i>Vibrio cholera</i>	Identification by any method	
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	

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Toxicology *continued*

Test	Value	Comments
Tobramycin	> 12 µg/mL	Peak—draw 30 minutes post infusion
	> 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	