

LABORATORY CRITICAL VALUES

*Newborn defined as <30 days, **Consecutive critical value exception applies

BLOOD GASES – (Clinical Lab CV's)	
Carboxyhemoglobin	≥4%
Bicarbonate (CO ₂)	≤10 or ≥40 mmol/L
Methemoglobin	≥5%
PCO ₂ , newborns*	<30 mm Hg
PCO ₂ , arterial or capillary	≥65 mm Hg
PCO ₂ , venous/mixed venous	≥71 mm Hg
pH, arterial/capillary, newborns*	<7.20 or >7.50
pH, arterial or Capillary	<7.20 or >7.60
pH, venous/mixed venous	<7.16 or >7.60
PO ₂ , arterial	≤45 mm Hg
Oxygen sat, arterial	≤75%
HEMATOLOGY **	
Hematocrit	≤20 or ≥65%
Hematocrit, ≤7 days old	≤35 or ≥65%
Hemoglobin	≤7.0 or ≥22.0 g/dL
Hemoglobin, ≤7 days old	≤12.0 or ≥22.0
Platelets	≤20 or ≥1,000 x 10 ³ /μL
WBC	≤1.5 or ≥60.0 x 10 ³ /μL
Neutrophil, Absolute Count , newborns*	≤1.0 x 10 ³ /μL
Absolute Neutrophil Count	≤0.5 x 10 ³ /μL
Peripheral Blood Smear: blasts, sickle cells, bacteria or yeast, parasites, ≥ 2+ schistocytes	
COAGULATION	
INR	≥5.0
PTT	≥130 sec
Factor VIII	≤ 5%
Fibrinogen	≤100 mg/dL
URINALYSIS	
Glucose/Ketones, Urine – Both results concurrently:	Glucose ≥ 500 mg/2+ Ketones ≥ 40 mg/2+
Sediment	RBC or WBC casts
BODY FLUIDS	
CSF WBC	≥10/μL
Smear: blasts, malignant cells, bacteria or yeast, parasites	
TRANSFUSION	
Hemolytic transfusion reaction	Refer to TM0026 procedure H and I
For clinical notifications to pathologist/clinician refer to CP0011-A5	

MICROBIOLOGY	
Positive Cultures, Smears, or molecular assays of normally sterile body fluids or sites. NOTE: The only urine specimens considered critical, will be from patients 90 days old or less.	
CHEMISTRY	
Acetaminophen	≥140 μg/mL
Alcohol/Ethanol	≥300 mg/dL
Ammonia**	>100 μmol/L
Bicarbonate**(CO ₂)	≤10 or ≥40 mmol/L
Bilirubin, total or indirect, newborns*	
0 days old	≥10 mg/dL
1 day old	≥13.5 mg/dL
2 days old	≥16.0 mg/dL
3-4 days old	≥17.5 mg/dL
5 days to 1 month old	≥18 mg/dL
Calcium, total	≤6 or ≥12 mg/dL
Calcium, ionized	≤0.83 or ≥1.59 mmol/L
Carbamazepine	≥15 μg/mL
Cyclosporine A	≥700 ng/mL
Digoxin	≥2.5 ng/mL
Gentamicin, trough	≥2.1 μg/mL
Glucose, newborns*	<30 or ≥200 mg/dL
Glucose	≤40 or ≥600 mg/dL
Lithium	≥1.5 mmol/L
Magnesium	
<18 yrs old	≤1.2 or ≥4.0 mg/dL
≥18 yrs old	≤1.2 or ≥6.0 mg/dL
Phenobarbital	≥60 μg/mL
Phenytoin	≥30 μg/mL
Phenytoin, free	≥3.0 μg/mL
Phosphorus	≤1.0 mg/dL
Potassium, newborns*	≤2.9 or ≥6.5 mmol/L
Potassium	≤2.9 or ≥6.0 mmol/L
Salicylate	≥40 mg/dL
Sodium	≤120 or ≥155 mmol/L
Tobramycin, Trough	≥2.1 μg/mL
Theophylline	≥20 μg/mL
Valproic Acid	≥150 μg/mL
Vancomycin, peak	≥100 μg/mL
Vancomycin, trough or random	≥25.1 μg/mL

When a critical value is generated between 10 PM and 7 AM in any of the following scenarios, clinician notification may be postponed until after 7 AM.

Result	Patient Type	Scenario	
CO ₂ , high critical	Outpatient	CO ₂ ≥ 35 mmol/L in past 3 months OR Diagnosis of COPD, emphysema, or chronic bronchitis	
Glucose, low critical	Outpatient	Non-newborn AND Specimen older than 6 hours at time of analysis	
Glucose, high critical	Outpatient	Age 16 or older AND History of diabetes (by diagnosis or prior results) AND Glucose < 1000 mg/dL	
Potassium, high critical	Outpatient	Potassium	6.0 - 6.5 mmol/L with or without hemolysis
		OR Potassium	6.6 - 7.0 mmol/L with 2+ or more hemolysis
		OR Potassium	7.1 - 7.5 mmol/L with 3+ or more hemolysis
		OR Potassium	7.6 - 8.0 mmol/L with 4+ or more hemolysis
		OR Potassium	≥ 8.1 mmol/L with 4+ hemolysis and/or specimen >8 hours old
Positive blood culture	Discharged inpatient	Discharged >24 hours before culture turned positive	
Blood culture with gram pos organism	Outpatient	Culture incubated >24 hours before turning positive OR Culture collected in dialysis center	