

Critical Test Values

The North Ottawa Community Hospital Laboratory has the policy of notifying the attending physician or his representative of dangerously low or high values of laboratory tests. All laboratory test results falling outside of the critical decision values will be repeated, if specimen volume allows before calling the physician or his representative. All calls are documented with the following information: time of call, name of person to whom the value was reported, and name of the technologist calling the result.

Test	Low Value	Possible effect	High Value	Possible effect
Acetaminophen			≥200 µg/mL	
APTT			>78 seconds	Hemorrhage
Arterial Blood Gases, Blood pH pCO ₂ pO ₂ MethHgb	<7.2 pH units <20 mmHg <40 mmHg	Complex interwoven patterns of acidosis, alkalosis, and anoxemia	>7.6 pH units >70 mmHg >1000 mmHg >35%	Complex interwoven patterns of acidosis, alkalosis, and anoxemia
Arterial Blood Gases, Cord Blood pH	<7.11			
Bilirubin, Conjugated <1 month			>1.6 mg/dL	
Bilirubin, Neonatal <1 month			>15 mg/dL	
Bilirubin, Total <1 month			>15 mg/dL	
Calcium	<6.0 mg/dL	Tetany and convulsions	>13.0 mg/dL	Coma
Carbamazepine			>20 µg/mL	
Carbon Dioxide (CO ₂)	<10 mmol/L		>40 mmol/L	
Cell Analysis, Body Fluid WBC <1 year >1 year Gram Stain			>30 cells/mUL >20 cells/mUL Any malignant cell, blast cell, or microorganism	
Cell Analysis, Spinal Fluid WBC <1 year >1 year Gram Stain			>30 cells/mUL >20 cells/mUL Any malignant cell, blast cell, or microorganism	
Chloride			>120 mmol/L	
Creatinine			>7.6 mg/dL	
Culture, Acid-Fast Bacillus (<i>Mycobacterium</i>)			Positive	
Culture, Blood			All positives	
DAT (direct antiglobulin test)			All positives	

Test	Low Value	Possible effect	High Value	Possible effect
Digoxin			>2.6 ng/mL	Cardiac, GI, and visual
Fibrinogen	<100 mg/dL			
Gentamicin, Peak			>10.0 µg/mL	
Gentamicin, Trough			>2.0 µg/mL	
Glucose 0 days 1 month >1 year	<30 mg/dL <40 mg/dL <40 mg/dL	Brain damage Brain damage Brain damage	>200 mg/dL >400 mg/dL >450 mg/dL	Diabetic coma Diabetic coma Diabetic coma
Gram Stain Body Fluid Spinal Fluid			Positive Positive	Bacterial meningitis Bacterial meningitis
Hematocrit <12 years >12 year	<25.0 vol% <18.0 vol%	Heart failure, anoxemia Heart failure, anoxemia	>65.0 vol% >60.0 vol%	
Hemoglobin <12 years >12 year	<8.0 g/dL <6.0 g/dL	Heart failure, anoxemia Heart failure, anoxemia	>21.0 g/dL >20.0 g/dL	
Lithium			>2.0 mmol/L	
Magnesium	<1.0 mg/dL		>4.7 mg/dL	
Microalbumin, 10 Hour			>200 µg/minute	
Phenobarbital			>60 µg/mL	
Phenytoin (Dilantin®)			>30 µg/mL	
Phosphorus	<1.0 mg/dL			
pH, Venous	<7.2		>7.6	
Platelet Count	<37 thou/mm ³	Hemorrhage	>910 thou/mm ³	
Potassium	<2.8 mmol/L		>6.5 mmol/L	
Protine (INR)			>4	Hemorrhage
Salicylate			>50 mg/dL	Hemorrhage
Sodium	<125 mmol/L	Dehydration and vascular collapse	>150 mmol/L	Edema, hypervolemia, and heart failure
Valproate			>200 µg/mL	
Vancomycin, Peak			>80 µg/mL	