

# Critical Values—Huntsville Hospital Health System Laboratory

Critical values will be called and documented by the laboratory technologist to the nurse in charge of the patient, another nurse, and/or the patient's physician. The following is the list of critical values reported by the technologist.

Test	Low Values	High Values
<b>Blood Bank:</b>		
When there is an unusual delay in obtaining compatible blood and/or blood components. Call immediately if it is an emergency situation. In routine cases, call when blood and/or blood components cannot be obtained within 3 hours.		
When a transfusion reaction work-up is suggestive of a hemolytic reaction or of bacterial contamination. Also, when the work-up identifies abnormalities such as IgA deficiency.		
When only incompatible blood is available for transfusion, or when Rh positive blood has been substituted for Rh negative.		
When a blood supplier notifies us of a presumptive positive test for bacterial contamination of platelets. We recommend blood cultures be drawn on the patient and antibiotics started.		
<b>Chemistry and Point of Care Testing</b>		
Acetaminophen Level (Tylenol®), Serum		>100 µg/mL
Bilirubin, Total, Serum Newborn		>15 mg/dL
Blood Gases, Arterial Blood pH pCO <sub>2</sub> pO <sub>2</sub> TCO <sub>2</sub>	<7.3 <25.0 mm Hg <55.0 mm Hg <10 mEq/L	>7.55 >55.0 mm Hg >40 mEq/L
Calcium, Total, Serum	<6.0 mg/dL	>13.0 mg/dL
Calcium, Ionized, Blood	<1.00 mmol/L	>1.45 mmol/L
Carboxyhemoglobin, Blood		>8.0%
CK-MB Interpretation For Reference Lab Patients only		Positive
CO <sub>2</sub> (Carbon Dioxide), Serum	<10 mmol/L	>40 mmol/L
Digoxin, Serum		>4.0 ng/mL
Glucose Newborn Adults	<30 mg/dL <40 mg/dL	>300 mg/dL >400 mg/dL
Lithium, Serum		>2.0 mmol/L
Magnesium, Serum Labor and Delivery Patient	<1.0 mg/dL	>4.7 mg/dL >8.4 mg/dL
Methemoglobin, Blood		>8.0%
Phenytoin (Dilantin®), Total, Serum		>30.0 µg/mL
Phosphorus, Inorganic (PO <sub>4</sub> )	<1.3 mg/dL	
Potassium, Plasma or Serum Newborn (heelstick) Adults	<2.6 mmol/L <2.8 mmol/L	>7.7 mmol/L >6.0 mmol/L

## Critical Values (Cont.)

Test	Low Values	High Values
Sodium, Serum	<120 mmol/L	>160 mmol/L
Theophylline, Serum		>25 µg/mL
Troponin T, Serum HH Emergency Department patients, all Madison Hospital patients and Reference Lab patients.		>99 ng/L
<b>Hematology and Point of Care Testing</b>		
Absolute Neutrophils Emergency Department Pediatrics (<21 years)	<1.0 x 10 <sup>3</sup> /µL	
Activated Partial Thromboplastin Time (APTT, PTT), Plasma APTT, PTT (Anticoagulated) APTT, PTT (Non-Anticoagulated)		>200 seconds >60 seconds
CSF Cell Count Infants (0-1 month)  Adults		>30 Total Nucleated Cells (TNC)/uL  >10 Total Nucleated Cells (TNC)/uL
Fibrinogen, Plasma	<100 mg/dL	
HCT (Hematocrit), Blood Infants (0-1 month) Adults	<30% <20%	>70% >60%
Hemoglobin Infants (0-1 month) Adults	<10.0 g/dL <7.0 g/dL	>23.0 g/dL >20.0 g/dL
Malaria Smear	Presence of malarial parasites	
Platelet Count, Blood	<40 x 10 <sup>3</sup> /µL	>999 x 10 <sup>3</sup> /µL
Prothrombin Time (PT), Plasma		INR >4.5
White Blood Cell (WBC) Count	<2.0 x 10 <sup>3</sup> /uL	>30.0 x 10 <sup>3</sup> /uL

## Critical Values (Cont.)

<b>Microbiology:</b>
Any initial positive result (smear or culture) on “sterile” site specimens
Any initial positive AFB smear or culture result
Any positive Rapid Candidemia Panel.
<i>Pseudomonas aeruginosa</i> , <i>Bacillus</i> species, and/or <i>Staphylococcus aureus</i> in eye cultures
Any positive shiga toxin test Any smear/culture with 1 of the following organisms: <i>Pneumocystis carinii</i> , <i>Salmonella</i> species, <i>Shigella</i> species, <i>Campylobacter jejuni/coli</i> group, <i>Escherichia coli</i> O157(H7)
<b>Serology:</b>
Positive Meningitis Encephalitis Panel
Positive Cryptococcal Antigen test
<b>Urinalysis:</b>
Whenever the ketone result is 40 mg/dL or greater (moderate or large) and glucose is present in any amount in the same urine specimen.
The presence of RBC casts in a urine specimen.

**Note: Critical Values for Reference Laboratory Patients (patients outside of the hospital) will be communicated verbally to the physician office or other ordering facility immediately as stated above. In the event ordering physician or facility is unavailable by phone or pager, result will be called the next working day.**