

The University of Chicago Medical Center Laboratories

APPENDIX 1 - Critical Value List

<b>Clinical Chemistry (Serum)</b>				
<u>Analyte</u>	<u>Unit</u>	<u>Low</u>	<u>High</u>	<u>Age Range</u>
Bilirubin Total, Newborn	mg/dL	---	>18	0-14 days
Calcium	mg/dL	< 6.0	>13	Any Age
Carbon Dioxide, Total	mmol/L	< 10	>40	Any Age
Glucose	mg/dL	< 40	>500	Any Age
Glucose, Newborn	mg/dL	< 30	>300	0-14 days
Magnesium	mg/dL	< 1.0	>8	Any Age
Phosphate	mg/dL	< 1.0	---	Any Age
Potassium	mmol/L	< 2.8	>6.2	Any Age
Potassium Newborn	mmol/L	< 2.8	>8	0-14 days
Sodium	mmol/L	< 120	>160	Any Age
<b>Clinical Chemistry Toxicology/TDM (Serum)</b>				
<u>Analyte</u>	<u>Unit</u>	<u>Low</u>	<u>High</u>	<u>Age Range</u>
Acetaminophen	ug/mL	---	> 150.0	Any Age
Amikacin, Peak & Random	ug/mL	---	> 80.0	Any Age
Amikacin, Trough	ug/mL	---	>10	Any Age
Carbamazepine	ug/mL	---	> 20.0	Any Age
Digoxin	ng/mL	---	> 3.0	Any Age
Gentamicin, Peak & Random	ug/mL	---	> 20.0	Any Age
Gentamicin, Trough	ug/mL	---	>5	>18y
		---	>3	0-18y
Lidocaine	ug/mL	---	> 9.0	Any Age
Lithium	mmol/L	---	> 2.00	Any Age
Phenobarbital	ug/mL	---	> 60.0	Any Age
Phenytoin	ug/mL	---	> 40.0	Any Age
Salicylate	mg/dL	---	> 30.0	Any Age
Theophylline	ug/mL	---	> 25.0	Any Age
Tobramycin, Peak & Random	ug/mL	---	> 20.0	Any Age
Tobramycin, Trough	ug/mL	---	>5	>18y
		---	>3	0-18y
Valproic Acid	ug/mL	---	> 200	Any Age
Vancomycin, Peak & Random	ug/mL	---	> 40.0	Any Age
Vancomycin, Trough	ug/mL	---	>20	Any Age

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<b><u>Coagulation</u></b>				
<b><u>Analyte</u></b>	<b><u>Unit</u></b>	<b><u>Low</u></b>	<b><u>High</u></b>	<b><u>Age Range</u></b>
Activated PTT	sec		> 100.0	Any Age
ADAMTS-13	%	≤ 10		Any age
PT INR			≥ 4.0	Any Age
Fibrinogen	mg/dL		< 80	Any Age

**Hematology**

**Inpatients & ED:** The laboratory calls critical values the first time the limit is exceeded. Whenever a value falls outside the critical range and then becomes critical again, a new call is made.

**Outpatients:** The laboratory calls critical values the first time the limit is exceeded. A new call is made every 48 hours if the value for the test is critical.

**All patients:** If the HCT is less than 15% and/or platelets are less than 10,000/uL the results will be called each time the value of the test is critical.

<b><u>Analyte</u></b>	<b><u>Unit</u></b>	<b><u>Low</u></b>	<b><u>High</u></b>
Hematocrit	%	< 20	> 60
Hemoglobin	gm/dL	< 6.0	> 20.0
Platelet Count	per uL	< 30,000	> 1,000,000
White Cell Count	per uL	< 1,000	> 30,000
White Cell Diff	< 500 Neutrophils /uL when the WBC is greater than 1000 /uL.		
Blast Cells	> 4% from outpatient/ emergency room patients		

When smears indicate that a platelet count is markedly decreased (less than 30,000/uL), but no platelet count was ordered, a platelet count is automatically performed and called as a Critical Value if less than 30,000/uL and the inpatient's previous platelet count was not critical or the outpatient's previous platelet count was not critical or not called in the past 48 hours.

Intracellular organisms and intracellular and extracellular parasites in: blood, CSF, pericardial fluid, peritoneal fluid (paracentesis), pleural fluid, synovial fluid; intracellular and extracellular yeast and pneumocystis in BAL.

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**Microbiology**

**Blood:** Initial presence of organisms by microscopic examination or growth is a critical value. No notification of additional positive cultures will be made within 3 days of the first notification if gram stain morphology or organism identification remains the same.

**Bone Marrow:** Positive for organisms by microscopic examination or culture growth.

**CSF:** Positive for organisms by microscopic examination or culture growth, or detection of organism-specific nucleic acid (PCR) in CSF. First-time positive *Cryptococcus* Latex Agglutination.

**Rapid Response Laboratory**

**Blood Gas - Whole Blood**

<u>Analyte</u>	<u>Unit</u>	<u>Low</u>	<u>High</u>	<u>Age Range</u>
pH	-	<7.20	>7.60	Any age
pH Cord Gas	-	<7.00	-	Cord blood only
PCO2	mmHg	<20	>70	Any age
PO2 (arterial)	mmHg	<40	-	Any age
Glucose	mg/dL	<40	>500	Any age
Sodium (Na)	mEq/L	<120	>160	Any age
Potassium (K)	mEq/L	<2.8	>6.2	Any age
tHb (total Hemoglobin)	g/dL	<6	-	Any age
COHb (Carboxyhemoglobin)	%		>20	Any age
MetHb (Methemoglobin)	%		>10	Any age