

# Critical Values

Following is a list of Allina Medical Laboratories Critical Values. A Critical Value describes a lab test result that may indicate a life-threatening situation. Any test falling within this range will be called to the Reference Laboratory client immediately.

## **CHEMISTRY**

<b>Test Name</b>	<b>Low</b>	<b>High</b>
ALT (Children ≤18 years)	NA	≥ 500 U/L
Ammonia	NA	≥ 80 μmol/L
Amylase (Children ≤15 years)	NA	≥ 200 U/L
Amylase (Adult)	NA	≥ 400 U/L
AST (Children ≤18 years)	NA	≥ 500 U/L
Bilirubin, Neonatal & Total	NA	≥ 15.0 mg/dl
BUN (Children ≤18 years)	NA	≥ 45 mg/dl
BUN (Adult)	NA	≥ 100 mg/dl
Calcium	≤ 7.0 mg/dl	≥ 13.0 mg/dl
Calcium, Ionized	≤ 0.80 mmol/L	≥ 1.55 mmol/L
Carbon Monoxide	NA	≥ 20%
Chloride	≤ 75 mmol/L	≥ 125 mmol/L
CK	NA	≥ 1,500 IU/L
CKMB	NA	≥ 7.0
CO2	≤ 10 mmol/L	≥ 40 mmol/L
Creatinine (< 6 yrs)	NA	≥ 1.5 mg/dl
Creatinine (6 – 11 yrs)	NA	≥ 2.0 mg/dl
Creatinine (11 – 15 yrs)	NA	≥ 3.0 mg/dl
Creatinine (> 15 years)	NA	≥ 7.0 mg/dl
Fetal Fibronectin	NA	Positive
Glucose (Newborn < 28 Days)	≤ 40 mg/dl	≥ 200 mg/dl
Glucose (Children ≤18 years)	≤ 40 mg/dl	≥ 300 mg/dl
Glucose (Adult)	≤ 40 mg/dl	≥ 400 mg/dl
Glucose – CSF	≤ 40 mg/dl	≥ 250 mg/dl
HIV Rapid Assay	NA	Preliminary Positive
Magnesium, Non OB	≤ 1.2 mg/dl	≥ 4.0 mg/dl
Magnesium, Obstetric	≤ 1.2 mg/dl	≥ 8.0 mg/dl
Phosphorous	≤ 1.0 mg/dl	≥ 10.0 mg/dl
pH, Arterial	≤ 7.2	≥ 7.6

**CHEMISTRY cont.**

<b>Test Name</b>	<b>Low</b>	<b>High</b>
pCO <sub>2</sub> , Arterial	≤ 20 mmHg	≥ 70 mmHg
pO <sub>2</sub> , Arterial	≤ 40 mmHg	NA
Potassium (Newborn ≤ 1 week)	≤ 3.0 mmol/L	≥ 6.5 mmol/L
Potassium (Adult)	≤ 3.0 mmol/L	≥ 6.0 mmol/L
Potassium (Pre-surgical)	≤ 3.5 mmol/L	NA
Sodium (Children ≤10 years)	≤ 125 mmol/L	≥ 150 mmol/L
Sodium (Adult)	≤ 120 mmol/L	≥ 160 mmol/L
Troponin T	NA	≥ 0.1 ng/ml
Uric Acid	NA	≥ 13 mg/dl

**BLOOD BANK**

Positive Antibody Screen – compatible blood is not available

Positive Direct Antiglobulin Test (DAT) on cord or neonatal sample

Two-fold or greater increase in prenatal antibody titer of clinically significant antibody

Inability to procure blood or blood components

**COAGULATION**

<b>Test Name</b>	<b>Low</b>	<b>High</b>
APTT, Newborn*	NA	>60 sec.
APTT, Adult	NA	>60 sec.
D-Dimer	NA	>4.0 mcg/ml
Factor X Chromogenic	<20%	NA
Fibrinogen, 0-15 Years	<80 mg%	
Fibrinogen, Adult	<100 mg%	
Heparin	NA	>1.0 units/ml
Heparin Antibodies		Positive, Indeterminate
INR	NA	>5.0
INR, Newborn*	NA	>1.7
Lepirudin		>2.0 mcg/ml
LMH	NA	>1.1 units / ml

\* Newborn defined as 0-28 days

**HEMATOLOGY**

<b>Test Name</b>	<b>Low</b>	<b>High</b>
Blasts	Any seen	
Ehrlichia	Any seen	
Hemoglobin, Adult	<8 gm/dl	>20 gm/dl
Hemoglobin, Newborn*	<13.5 gm/dl	>24 gm/dl
Platelet Count	<20,000 mm <sup>3</sup>	>1 Million
Platelet Count, Newborn*	<50,000 mm <sup>3</sup>	>1 Million
Platelet Count (Peds – Oncology)	<5,000 mm <sup>3</sup>	>1 Million
White Blood Count	<2.0 x 10 <sup>3</sup> mm <sup>3</sup>	>50.0 x 10 <sup>3</sup> mm <sup>3</sup>
White Blood Count, Newborn	<5.0 x 10 <sup>3</sup> mm <sup>3</sup>	>35.0 x 10 <sup>3</sup> mm <sup>3</sup>
White Blood Count, CSF		>5 mm <sup>3</sup>

\* Newborn defined as 0-28 days

**MICROBIOLOGY****Critical Result Call List**

Positive gram stains on:

- CSF
- Blood, bone marrow
- Amniotic, pleural, pericardial, synovial, ascitic, and joint fluids
- Organs (kidney, liver, etc)
- Tissues from sterile sites such as bone, joint, brain, etc.
- Surgical eye specimens

Positive results:

- Clostridium difficile toxin
- Cryptococcal Antigen
- Legionella Urine Antigen
- Streptococcus pneumoniae Antigen

Positive cultures:

- Blood
- Bone marrow
- CSF
- Amniotic, pleural, pericardial, synovial, ascitic, and joint fluids
- Organs (kidney, liver, etc)
- Tissues from sterile sites such as bone, joint, brain, etc.
- Group B beta *Streptococcus*, any source, from newborns, Labor & Delivery patients only.
- E. coli* 0157:H7
- Zygomycete from sinus, eye, nose

Eye cultures

- Streptococcus pneumoniae*
- Pseudomonas aeruginosa*
- Bacillus* species
- Any isolate from surgical eye specimens (cornea, vitreous fluid, etc)

Blood parasites

Dialysis water culture out-of-range results

**Non-Critical Result Call List**

Bordetella pertussis DNA Detected

Positive Influenza antigen

Positive RSV antigen

*Histoplasma*, *Coccidioides*, *Blastomyces*, *Paracoccidioides*

Methicillin resistant *Staphylococcus aureus* (MRSA): all isolates from AML Reference Lab patients

VRE and ESBL Producers: AML Reference Lab Hospital patients

Acid fast bacilli

- smear
- culture
- DNA probe results
- identification
- susceptibilities

**TOXICOLOGY**

<b>Test Name</b>	<b>Low</b>	<b>High</b>
Acetaminophen		≥100 µg/ml
Carbamazepine (Tegretol)		≥ 12.0 µg/ml
Digoxin (Lanoxin)		≥ 2.5 ng/ml
Ethanol		≥ 0.300 mg/ml
Gentamicin, Trough		≥ 2.0 µg/ml
Gentamicin, Peak		≥ 12.0 µg/ml
Lithium		≥ 1.5 meq/l
Methotrexate (24 Hrs Post Dose)		≥ 10 µMoles/L
Methotrexate (48 Hrs Post Dose)		≥ 0.9 µMoles/L
Methotrexate (72 Hrs Post Dose)		≥ 0.2 µMoles/L
Phenobarbital		≥ 50.0 µg/ml
Phenytoin (Dilantin)		≥ 30.0 µg/ml
Phenytoin – Free (Unbound)		≥ 3.0 µg/ml
Primidone		≥ 15.0 µg/ml
Salicylate		≥ 35.0 mg/dl
Theophylline (Aminophylline)		≥ 20.0 µg/ml
Tobramycin, Trough		≥ 2.0 µg/ml
Tobramycin, Peak		≥ 12.0 µg/ml
Valproic Acid (Depakene)		≥ 150 µg/ml
Valproic Acid – Free		≥ 40.0 µg/ml
Vancomycin, Trough		≥ 20.0 µg/ml
Vancomycin, Peak		≥ 60.0 µg/ml

**URINALYSIS**

<b>Test Name</b>	<b>Low</b>	<b>High</b>
Glucose & Ketones		Positive (Both must be positive)
Glucose, Pre-op		≥500 mg/dl
Protein, Pre-op		≥ 1+
Reducing Substances		Positive ≤ 12 months