

## Attachment A – Critical Values For Patients in an Acute Care Setting

(Inpatient, Emergency, Observation, Cath Lab, etc)

### Department of Laboratory Medicine – Critical Test Results

#### GENERAL CHEMISTRY

Test	Age	Low	High
Bilirubin, Direct	< 2 months	(none)	> 2.0 mg/dL
Bilirubin, Total: Arterial/Capillary/Venous	all ages	(none)	> 15.0 mg/dL
Bilirubin, Total: Cord	newborn	(none)	> 3.0 mg/dL
Calcium, Ionized	< 2 months	< 0.75 mmol/L	> 2.0 mmol/L
Calcium, Total	≥ 2 months	< 6.0 mg/dL	> 14.0 mg/dL
Calcium, Total	< 2 months	< 6.0 mg/dL	> 12.0 mg/dL
Carbon Dioxide (CO <sub>2</sub> )	≥ 2 months	< 13 mmol/L	(none)
Carbon Dioxide (CO <sub>2</sub> )	< 2 months	< 12 mmol/L	(none)
Creatinine	< 2 months	(none)	> 1.5 mg/dL
Glucose	≥ 18 years	< 50 mg/dL	> 499 mg/dL
Glucose	≥ 2 months & < 18 years	< 50 mg/dL	> 300 mg/dL
Glucose	> 3 days & < 2 months	< 50 mg/dL	> 200 mg/dL
Glucose	0-3 days	< 40 mg/dL	> 200 mg/dL
Lactate	< 2 months	(none)	> 5.0 mmol/L
Magnesium	all ages	< 1.0 mg/dL	> 4.0 mg/dL
Potassium (K <sup>+</sup> )	≥ 2 months	< 2.5 mmol/L	> 6.4 mmol/L
Potassium (K <sup>+</sup> )	< 2 months	< 3.0 mmol/L	> 6.4 mmol/L
Sodium (Na <sup>+</sup> )	≥ 2 months	< 121 mmol/L	> 159 mmol/L
Sodium (Na <sup>+</sup> )	< 2 months	< 130 mmol/L	> 150 mmol/L
Troponin I	all ages	(none)	> 0.49 ng/mL

#### THERAPEUTIC DRUGS (TDMs)

Test	Age	Low	High
Acetaminophen	all ages	(none)	> 150.0 g/mL
Carbamazepine	all ages	(none)	> 17.0 ug/mL
Digoxin	all ages	(none)	> 2.5 ng/mL
Dilantin (Phenytoin)	all ages	(none)	> 20.0 ug/mL
Gentamicin, Trough	≥ 2 months	(none)	> 2.0 ug/mL
Gentamicin, Trough	< 2 months	(none)	> 1.0 ug/mL
Gentamicin, Peak	≥ 2 months	(none)	> 10.0 ug/mL
Gentamicin, Peak	< 2 months	(none)	> 12.0 ug/mL
Gentamicin, Extended Interval	all ages	(none)	> 12.0 ug/mL
Lithium	all ages	(none)	> 2.0 mmol/L

Phenobarbital	all ages	(none)	> 60 ug/mL
Salicylate	all ages	(none)	> 40 mg/dL
Theophylline	≥ 2 months	(none)	> 20 ug/mL
Theophylline	< 2 months	(none)	> 15 ug/mL
Tobramycin, Trough	all ages	(none)	> 2.0 ug/mL
Tobramycin, Peak	all ages	(none)	> 10.0 ug/mL
Tobramycin, Extended Interval	all ages	(none)	> 12.0 ug/mL
Valproic Acid	all ages	(none)	> 100.0 ug/mL
Vancomycin, Trough	all ages	(none)	> 20.0 ug/mL
Vancomycin, Peak	all ages	(none)	> 50.0 ug/mL

## BLOOD GASES

Test	Age	Low	High
pH:	≥ 2	<7.20	> 7.60
Arterial/Capillary/Venous	months		
pH: Arterial/Capillary/Venous	< 2 months	< 7.20	> 7.55
pO <sub>2</sub> :Arterial (except Cord)	≥ 2 months	< 60 mmHg	(none)
pO <sub>2</sub> :Arterial (except Cord)	< 2 months	< 60 mmHg	> 100 mmHg
pCO <sub>2</sub> :Arterial/Capillary/Venous	≥ 2 months	< 20 mmHg	> 70 mmHg
pCO <sub>2</sub> :Arterial/Capillary/Venous (except Venous Cord)	< 2 months	< 35 mmHg	> 70 mmHg

## BLOOD BANK

Any delay in the blood bank concerning:

- Filling a request for crossmatch on a surgery patient
- Inability to crossmatch a patient
- Inability to procure blood or blood components

## HEMATOLOGY

Test	Age	Low	High
Hematocrit	≥ 2 months	< 18.0 %	> 60.0 %
Hematocrit	< 2 months	< 20.0 %	> 65.0 %
Hemoglobin	≥ 2 months	< 6.0 gm/dL	> 20.0 gm/dL
Hemoglobin	< 2 months	< 7.5 gm/dL	> 20.0 gm/dL
WBC, Peripheral Blood	≥ 18 years	< 1.5 x10 <sup>3</sup> /uL	> 50 x10 <sup>3</sup> /uL
WBC, Peripheral Blood	≥ 2 months & < 18 years	< 3.0 x10 <sup>3</sup> /uL	> 30 x10 <sup>3</sup> /uL
WBC, Peripheral Blood	< 2 months	< 3.0 x10 <sup>3</sup> /uL	> 35 x10 <sup>3</sup> /uL
WBC, Spinal Fluid	> 6 months	(none)	> 10/uL
WBC, Spinal Fluid	0-6 months	(none)	> 40/uL

## COAGULATION

Test	Age	Low	High
PT INR	all ages	(none)	INR > 5.0
Partial Thromboplastin Time (PTT)	≥ 2 months	(none)	> 115 sec
Partial Thromboplastin Time (PTT)	< 2 months	(none)	> 60 sec
Fibrinogen	≥ 2 months	< 75 mg/dL	(none)
Fibrinogen	< 2 months	< 125 mg/dL	(none)

Platelet Count	≥ 2 months	< 50 x 10 <sup>3</sup> /uL	>1000 x10 <sup>3</sup> /uL
Platelet Count	< 2 months	< 100 x10 <sup>3</sup> /uL	>1000 x10 <sup>3</sup> /uL
Anti-Xa, Heparin	all ages	(none)	> 1.0 IU/mL
Anti-Xa, Low Molecular Weight (LMWH)	all ages	(none)	> 1.5 IU/mL

## MICROBIOLOGY

Positive Blood Culture

Isolation of any enteric pathogen (as determined by Clinical Lab Scientist / Microbiologist)

Positive CSF smear or culture

Positive AFB smear or culture

Positive systemic fungus culture (as determined by Clinical Lab Scientist / Microbiologist)

Identification of Group B Strep from an obstetric patient

Any Gram stain result not listed above that is suspected to be of immediate medical significance

Positive Clostridium difficile toxin test.

## Attachment B – Critical Values For Non-Acute Care Settings

(Outpatients, Outreach, etc.)

### Department of Laboratory Medicine – Critical Test Results

Test	Age	Low	High
Glucose	≥ 18 years	< 50 mg/dL	> 499 mg/dL
Glucose	≥ 2 months & < 18 years	< 50 mg/dL	> 300 mg/dL
Glucose	> 3 days & < 2 months	< 50 mg/dL	> 200 mg/dL
Glucose	0-3 days	< 40 mg/dL	> 200 mg/dL
Potassium (K <sup>+</sup> )	≥ 2 months	< 2.5 mmol/L	> 6.4 mmol/L
Potassium (K <sup>+</sup> )	< 2 months	< 3.0 mmol/L	> 6.4 mmol/L
Troponin I	all ages	(none)	> 0.30 ng/mL
Hemoglobin	≥ 2 months	< 6.5 gm/dL	> 20.0 gm/dL
Hemoglobin	< 2 months	< 7.5 gm/dL	> 20.0 gm/dL
PT INR	all ages	(none)	INR > 5.0

Note: For Non-Acute Care settings, only the critical values defined on Attachment B are called immediately. While not deemed as Critical values in the outpatient setting, additional values in Attachment A that are not included in Attachment B are called at next opportunity between the hours of 0800 and 1700 \_Monday - Sunday.