

## Rochester General Hospital (RGH) - Critical Lab Values (10/17/17)

*Although normal/therapeutic ranges may vary somewhat according to laboratory site, the critical values listed below for Chemistry, Hematology & Blood Bank have been adopted by consensus of the Laboratory Directors of all Rochester Regional Health ambulatory and acute care laboratories.*

Dawn K. Riedy, MD, RGH Laboratory Director

Roberto Vargas, MD, RGH Assistant Laboratory Director, Chemistry

<b>Test name, Units</b>	<b>RGH Laboratory Normal/Therapeutic Range</b>	<b>Critical LOW  Call when results are</b>	<b>Critical HIGH  Call when results are</b>
Acetaminophen, mcg/mL	10 – 20		≥ 150
Acetone, mg/dL	Negative		≥ 20
Amikacin, mcg/mL	4 – 8 (Trough) 20 – 25 (Peak) -		≥ 10 (Trough) ≥ 30 (Peak) ≥ 30 (Random)
Bilirubin, NEWBORN, mg/dL	1 day 0 – 6 5 day 0 – 12 10 day 0 – 8 1 month 0 – 1		≥ 14 <b>Lifetime All Newborn Bilirubin</b>
Blood Gases, Arterial	pH 7.36 – 7.45 pCO <sub>2</sub> 35 – 45 pO <sub>2</sub> 80–100	pH ≤ 7.10 pCO <sub>2</sub> ≤ 15 pO <sub>2</sub> ≤ 45 (birth – day 7) pO <sub>2</sub> ≤ 40	pH ≥ 7.60 pCO <sub>2</sub> ≥ 70
BUN, mg/dL	8 -20		≥ 100 ( <b>Outpatients only</b> ) Call first time only then again after normal
Carbamazepine (Tegretol), mcg/mL	6 – 12 monotherapy 4 – 8 polytherapy		≥ 15
Calcium, mg/dL	8.5 – 10.2 age dependent	≤ 6	≥ 13
Calcium, Ionized, mg/dL	4.5 – 5.3	≤ 3.0	≥ 6.4
Carbon Dioxide, mEq/L	22 – 30	≤ 10 Call first time only then again after normal	≥ 40 Call first time only then again after normal

Test name, Units	RGH Laboratory Normal/Therapeutic Range	Critical LOW Call when results are	Critical HIGH Call when results are
Carbon Monoxide, Percent	0.5 – 1.5		≥ 20
Creatine Kinase, U/L	F 21 – 215 M 35 – 232		≥ 3000 ( <b>Outpatients only</b> ) Call first time only
Digoxin, ng/dL	0.8 – 2.0		≥ 2.5
Ethylene Glycol, mg/dL	None		≥10
Gentamicin, mcg/mL	0.0-2.0 5.0-10.0 -		≥ 2.1 (Trough) ≥ 12.1 (Peak) ≥ 12.1 (Random)
Glucose, mg/dL	Adult 65 – 100  1 day 36 – 110 7 day 47 - 117  CSF 40 – 70	≤ 40 Adult ≤ 60 <b>MICU</b> ≤ 25 1 day ≤ 40 7 day  CSF ≤ 30	≥ 500 Adult ≥ 500 <b>MICU</b> ≥ 200 1 day ≥ 200 7 day  CSF ≥ 200
Lactate, mmol/L	0.4 – 2.0		≥ 3.5
Isopropanol, mg/dL	Negative		≥ 10
Lithium, mEq/L	0.6 – 1.2		≥ 1.5
Magnesium, mg/dL	1.5 – 2.4	≤ 0.8	≥ 4.0
Methanol, mg/dL	Negative		≥ 10
Methemoglobin, percent	0.4 – 1.2		≥ 10
Phenobarbital, mcg/mL	15 – 40		≥ 50
Phenytoin, (Dilantin), mcg/mL	10 – 20		≥ 40

Test Name, Units	RGH Laboratory Normal/Therapeutic Range	Critical LOW Call when results are	Critical HIGH Call when results are
Phenytoin, Free, mcg/mL	1.0 – 2.0		≥ 3.0
Phosphorus, mg/dL	2.2 – 4.5 age dependent	≤1.0	≥ 10.0
Potassium, serum mEq/L	1 month 3.7 – 6.0 2 years 4.0 – 5.5 adult 3.5 – 5.1	≤2.9 ≤2.9 ≤2.9	≥ 7 ≥ 6 ≥ 6
Salicylate, mg/dL	15 – 30		≥ 50
Sodium, mEq/L	135 – 145	≤119	≥ 160
Theophylline, mcg/mL	10 – 20		≥ 25
Tobramycin , mcg/mL	0 – 2 (Trough) 5 – 10 (Peak) -		≥ 2.1 (Trough) ≥ 12 (Peak) ≥ 12 (Random)
Troponin ng/mL	0.00 – 0.60		≥ 0.60 Call first time only then after normal or seven days have passed.
Uric Acid, mg/dL	F 2.6 – 6.0 M 3.5 – 7.2		≥ 25.0
Valproic Acid , mcg/mL	50 – 100		≥ 150
Vancomycin, mcg/mL	10 – 20 (Trough) -		≥ 25 (Trough) ≥ 60 (Random)

**References: CHEMISTRY**

Many values historically set are similar to those found in Clin. Lab. Ref., 25<sup>th</sup> Ed., p. 10-11, 1998, and Lum, G., Ann Clin & Lab Sci. 28,261-271, 1998.

Wagar, EA et al. Critical Values Comparison: A College of American Pathologists Q-Probes Survey of 163 Clinical Laboratories Arch Pathol Lab Med. 2007; 13:1769-1775

**Reference: DRUGS**

Many values historically set are similar to those found in Clin. Lab. Ref., 25<sup>th</sup> Ed., p. 12-14, 1998.

Dawn K. Riedy, MD, RGH Laboratory Director  
 William Fricke, MD, RGH Assistant Laboratory Director, Hematology

<b>Test Name, Units</b>	<b>RGH Laboratory Normal/Therapeutic Range</b>	<b>Critical LOW Call when results are</b>	<b>Critical HIGH Call when results are</b>
APTT, seconds	Varies with reagent lot		≥ 150 sec
Hematocrit, percent	M 40 – 52 F 35 – 47	≤ 18 % Newborn ≤ 18%	≥ 60 % Newborn ≥ 80%
Hemoglobin, g/dL	M 13.0 – 18.0 F 12.0 – 16.0	≤ 5.0 ≤ 6.0 <b>Dialysis</b>	
Platelets, count per uL	150 – 450	≤ 20 X 10 <sup>3</sup> /uL  ≤ 50 X10 <sup>3</sup> /uL <b>L&amp;D/Maternity</b>	≥ 1000 X 10 <sup>3</sup> /uL
Prottime, seconds	Varies with reagent lot		INR ≥ 5.0
WBC, count per uL	4 – 11	≤ 1.0	≥ 100.0 ≥ 20 for Peds < 12 yr with abs seg # ≥ 15
Band Count, percent	0 - 9		≥10 <b>ALL Emergency Dept. locations (only)</b>
Blood smear, Parasite	Negative		Positive

Dawn K. Riedy, MD, RGH Laboratory Director

William Fricke, MD, RGH Assistant Laboratory Director, Transfusion Services

<b>Test Name, Units</b>	<b>Call when results are</b>
Cord Blood Workups	Positive Direct Coombs only for Patients $\leq$ 6 months
Transfusion Reactions	Hemolytic reactions
Kleihauer Betke	All results

Dawn K. Riedy, MD, RGH Laboratory Director

Roberto Vargas, MD, RGH Assistant Laboratory Director, Microbiology

<b>Test Name, Units</b>	<b>Call when results are</b>
Blood Cultures (Gram stain or culture)	Positive results
Sterile Body Fluids, CSF, Surgicals etc. (Gram Stain or Culture)	Positive results
HSV PCR, CSF	Positive results