

Critical Values In Medical Laboratory

Chemistry Critical Values

Test	Lower Limit	Upper Limit
Ammonia	None	>50 mol /L
Amylase	None	>250 IU/L
Bilirubin Total,Adult	None	>18 mg/dL
Bilirubin Total ,Cord Blood	None	>1.9 mg/dL
Bilirubin direct, Premature	None	>1.8 mg/dL
Bilirubin Total, Premature	None	>15 mg/dL
Bilirubin Total, Neonatal	None	>15 mg/dL
HCG, Serum	None	>5 IU/L On Female Less Than16 Years
HCG , Urine	None	Positive On Female Less Than16 Years
Calcium	< 6.6 mg/dL	>12.9 mg/dL
Calcium, Premature	< 7 mg/dL	>11 mg/dL
Chloride	< 80 mmol/L	>120 mmol/L
CK	None	>500 U/L
CK-MB	None	>15.0 ng/mL
Cortisol (Not On Dexametasone)	< 140 nmol/L	None
Creatinine	None	>5 mg/dL
Creatinine , Premature	None	>1.6 mg/dL
CO2	< 11 mmol/L	>39 mmol/L
CSF Glucose	< 40 mg/dL	>200 mg/dL
CSF Protein	None	≥ 70 mg/dL
Digoxin	None	>2.5 ng/mL
Glucose	< 50 mg/dL	>450 mg/dL
Glucose, Premature	< 40 mg/dL	>200 mg/dL
Lactic Acid (Lactate)	None	> 3.4 mmol/L
Lead	None	>7 umol /L
Lipase	None	>80 IU/L
Lithium	None	>1.5 mEq/L
Magnesium	< 1.2 mg/dL	>3.9 mg/dL
Methemoglobin	None	> 5 %
Osmolality	< 251 mOsm/kg	>324 mOsm/kg
pCO2	< 30 mmHg	>50 mmHg
PH	< 7.21	>7.55
Phenobarbital	None	>45 ug/mL
Phosphorus	< 1.2 mg/dL	>7.5 mg/dL
Phosphorus ,0-30 day	< 3 mg/dL	>35 mg/dL
Potassium	< 2.8 mEq/L	>6.0 mEq/L
Potassium (Hemolyzed)	< 2.8 mEq/L	>8.0 mEq/L
Potassium, Premature	< 3.0 mEq/L	>6.5 mEq/L
pO2	< 46 mmHg	>100 mmHg
Sirolimus	None	>30 g/L
Sodium	< 125 mEq/L	> 160 mEq/L
Sodium, Premature	< 125 mEq/L	>150 mEq/L
Troponin I	None	>0.10 ng/mL
TSH (ED Only)	None	>150.0 uIU/mL

TSH <4 days	< 1.0 mU/L	>20 mU/L
TSH 4 days- 2 Years	None	>10 mU/L
T4 (Free) 0-2 Years	< 6 pmol/L	>50 pmol/L
T4 (Free) >2 Years	< 2 pmol/L	None
T4 ,Adult	None	>18.0 ug/dL
T4 ,Newborns	< 3.5 ug/dL	>18.0 ug/dL
Urea	None	>214 mg/dL
Urea , Premature	None	>107 mg/dL
Valproic Acid	None	>140 ug/mL

Hematology Critical Values

Blasts	Any Present in Non-Oncology Patients	Any Present in Non-Oncology Patients With No Blasts Previously
D - Dimer	None	≥ 500 ng/mL
Fibrin Degradation Products (FDP)	None	≥20ug/mL
Fibrinogen	≤ 100 mg/d l	>800 mg/dL
Hematcrit (Hct)	< 21 %	>60 %
Hemoglobin (Hgb)	≤ 7 g/dL	≥20 g/dL
Hemoglobin (Hgb), 0-1 day	≤ 10.8 g/dL	≥ 22.5 g/dL
Hemoglobin (Hgb), 1-3 day	≤ 10.5 g/dL	≥ 25.0 g/dL
Hemoglobin (Hgb), 3-14 day	≤ 10.4 g/dL	≥ 22.5 g/dL
Hemoglobin (Hgb), 14-30 day	≤ 7.0 g/dL	≥ 22.0 g/dL
Hemoglobin (Hgb) ,1months - 12 years	≤ 7.0 g/dL	≥ 18.0 g/dL
Platelet Count	≤ 30 k/cmm	≥ 950 k/cmm
White Blood Cell Count	≤ 2.0 k/cmm	≥ 25 k/cmm
White Blood Cell Count , 0-3 day	≤ 2.0 k/cmm	≥ 34 k/cmm
White Blood Cell Count , 3-14 day	≤ 2.0 k/cmm	≥ 25 k/cmm
CSF White Blood Cell Count	None	>10 cells/uL
Non - Therapeutic INR	None	≥ 1.8
Therapeutic INR	None	≥ 4.9
Prothrombin Time	None	> 24 Seconds
Prothrombin Time, 0-6 months	≤ 9.9 Seconds	≥ 25 Seconds
Non - Therapeutic APTT	≤ 18 Seconds	> 50 Seconds
Therapeutic APTT	≤ 20 Seconds	>100Seconds
APTT Pediatric, 0-6 months	≤ 18 Seconds	≥ 61 Seconds
Newborn Positive Direct Coombs Test (DAT)		

Microbiology Critical Values

Test	Critical Value Notification
Blood Culture	Positive Smear Or Culture
Cerebrospinal Fluid(CSF) Exam	Positive Smear Or Culture
Acid Fast Bacilli - AFB	Positive Smear Or Culture
Herpes Culture	Positive Culture From Female Genital Specimen
Genital Culture	Positive Culture For Neisseria Gonorrhoeae And GroupB Strep From Inpatient /OB Genital , Placenta
Cryptococcal Antigens	Positive

Hepatitis Surface Antigen	Positive Poostpartum Within 24 hrs
Positive Tissue Cultures (Liver,Bine Biopsies,ets.)	
Beta – Hemolytic Streptococci,Group A From Sterile Sites	
Neisseria Gonorrhoeae From Eyes	
Clostridium Botulinum, Clostridium Perfringenes, Clostridium Tetanus	
Coryneacterium Diphtheriae	
Legionella Species	
Listeria Species	
Positive Modified Acid Fast And Ziehl- Neelsen Stains	
Unusually Resistant Organisms Including:	
*Vancomycin Resistant Entrococci (VRE)	
*Methicilin Resistant Staphylococcus Aureus (MRSA)	
*Multiply Resistant Gram Negatve Or Any Other Highly Resistant Organism Or Organism With Unusual Susceptibility Pattern.On Blood/Sterile Fluids/Wound/ANO2/Screening Swabs,BAL,Tracheal Aspirates	
*Extended Spectrum Beta Lactamases (ESBLs)	
*Glycopeptide Intermediate StaphylococcusAureus (GISA) Borderline Oxacilin Resistant StaphylococcusAureus (BORSA)	
All Notifiable Disease Isolates	
Cryptococcus Neoformans	
Zygomycetes From Sinus/Eye Specimens	
Vitreous Fluids From Eyes(Positive And Negative Report From Slide Preparations)	
Blastomyces Dermatidis.Histoplasma Capsulatum,Coccidioides Immitis,Paracoccidoides Bbrasiliensis,Sporothrix Schenkii,Penicilium Marneffi	
Level III Organisms:	
Bacillus Anthracis,Brucella spp.,Francisella spp.,Yersinia Pestis	
Stenotrophomonas Maltophilia : Non – Sterile Sites	
Stool Pathogens Including SalmonellaShigella,Yersinia,Campylobacter spp.,Clostridium Difficile,E-Coli 0157:H7,Vibrio spp.,Rotavirus	
All Positive And/Or Stat Malaria Tests	
PCP- Pneumocystis Jirovecii (Carnii)	
RSV,Infkuenzae A; All Positive Results	
Varicella Zoster Virus: All Positive Results	
Parasites: Cyclospora spp.,Giardia,Entamoeba Histolytica,Cryptosporidium spp.Acanthamoeba,Parasitic Ova,Worm,,Proglottid,And Larvae	
Urine Analysis Critical Values	
Spermatozoa	Female Less Than 16 Years
Any RBC Casts	
Any WBC Casts	
Myoglobin	Positive
Porphobilinogen	Positive
Pediatric <2 Years : Positive For Reducing Substance	
Children <7 Years : Positive For Glucose	

Reference:

***Sanford Laboratories.**

www.svclinlabs.org/Testing/CriticalValues

***The University Of Kansas Hospital.**

***MGH Clinical Laboratory.**

<http://mghlabtest.org/CriticalValues.htm>

***Rush University Medical Center.**

www.rush.edu/webapps/rml/RMLClinicalChemCV.jsp

***UC Davis Health System.**

www.ucdmc.ucdavis.edu/pathology/services/clinical/clinical_pathology

***BC Biomedical Laboratory LTD. [http://](http://www.Bcbio.com/bcbiomedical-inside.aspx)**

www.Bcbio.com/bcbiomedical-inside.aspx

***American Society For Clinical Pathology**

***Department Of Laboratory Medicine Washington.**

<http://depts.washington.edu/labweb/test/panic.html>

Care Group Healthcare Sysem.

http://caregroup.org/departments/pathology/lab_manual/PML_critical_values.htm

***Covenant Laboratory.**

http://www.covenantlab.com/critical_values.html

***Alberta Health Services.**

<http://calgarylabservices.com/LabTest/CriticalValues.htm>

***The Ohio State University Medical Center Department Of Clinical Laboratories.**