

DLMP Critical Values / Critical Results List

PURPOSE

The purpose of this list is to identify the laboratory tests and their respective critical high and critical low values/results. This list pertains to testing that is performed in Rochester, Arizona, Florida, Mayo Clinic Health System (MCHS) and MML performing sites.

A Critical Value / Critical Result is defined as

A value/result that represents a pathophysiological state at such variance with normal (expected values) as to be life-threatening unless something is done promptly and for which some corrective action could be taken.

NOTE: The critical values/results do not necessarily correspond directly with normal reference ranges, toxic ranges, or therapeutic ranges.

NOTE: In addition to the critical values identified on this list, critical alerts from testing referred to outside laboratories (non-Mayo) will be communicated to clients in accordance with notification standards once those performing laboratories notify Mayo.

HEMATOLOGY

Test Report Name	Age	Critical Low	Critical High	Units
Activated Partial Thromboplastin Time, Plasma		-	≥ 150	sec
Fibrinogen		≤ 60	-	mg/dL
Hemoglobin	0-7 weeks	≤ 6.0	≥ 24.0	g/dL
Hemoglobin	>7 weeks	≤ 6.0	≥ 20.0	g/dL
INR (International Normalizing Ratio)		-	≥ 5.0	
Leukocytes		-	≥ 100.0	x10(9)/L
Absolute Neutrophil Count		≤ 0.5	-	x10(9)/L
Neutrophils		≤ 0.5	-	x10(9)/L
Platelets, Blood		≤ 40	≥ 1000	x10(9)/L
CSF White Blood Cell Count			≥ 100.0	Cells/mcL

CHEMISTRY

Test Report Name	Age	Critical Low	Critical High	Units
Ammonia	>1 year	-	≥ 500	mcg/dL
* Ammonia – Rochester (Deviation in units)	>1 year		≥ 500	mcgN/dl
Ammonia	< 1 yr	-	≥ 150	mcg/dL
* Ammonia – Rochester (Deviation in units)	< 1 yr		≥ 150	mcgN/dl
*Ammonia - MCHS (Deviation due to methodology difference)		-	≥ 50	mcmol/L
Bilirubin Total, Serum	< 1 yr	-	≥ 15.0	mg/dL
Calcium, Total		≤ 6.5	≥ 13.0	mg/dL
Calcium, Ionized, Blood	< 1 yr	≤ 2.0	≥ 6.0	mg/dL
Calcium, Ionized, Blood	≥ 1 yr	≤ 3.0	≥ 6.5	mg/dL
*Calcium, Ionized, Blood - Florida (Deviation due to methodology difference)	< 1yr	≤ 3.0	≥ 5.5	mg/dL
*Calcium, Ionized, Blood - Florida (Deviation due to methodology difference)	≥ 1 yr	≤ 3.0	≥ 6.0	mg/dL
Carbon Monoxide (Carboxyhemoglobin)		-	≥ 20	%

Level)				
Creatinine, Blood/Plasma/Serum	1 day-4 weeks	-	≥ 1.5	mg/dL
Creatinine, Blood/Plasma/Serum	5 weeks - 23 mos	-	≥ 2.0	mg/dL
Creatinine, Blood/Plasma/Serum	2 yrs - 11 yrs	-	≥ 2.5	mg/dL
Creatinine, Blood/Plasma/Serum	12 yrs -15 yrs	-	≥ 3.0	mg/dL
Creatinine, Blood/Plasma/Serum	≥ 16 yrs	-	≥ 10.0	mg/dL
Creatine Kinase, Total		-	$\geq 10,000$	U/L
FT4 (Free Thyroxine)	< 50 yrs	-	≥ 9.0	ng/dL
*FT4 (Free Thyroxine) Florida (Deviation due to methodology difference)	< 50 yrs	-	≥ 4.5	ng/dL
FT4 (Free Thyroxine)	≥ 50 yrs	-	≥ 6.0	ng/dL
*FT4 (Free Thyroxine) Florida (Deviation due to methodology difference)	≥ 50 yrs	-	≥ 4.5	ng/dL
Glucose, Plasma/Serum	< 4 weeks	≤ 40	≥ 400	mg/dL
Glucose, Plasma/Serum	≥ 4 weeks	≤ 50	≥ 400	mg/dL
Magnesium, Serum		≤ 1.0	≥ 9.0	mg/dL
Osmolality		≤ 190	≥ 390	mOsm/Kg
*pH (MCHS and AZ only)		≤ 7.200	≥ 7.600	pH
*pCO ₂ , arterial (MCHS and AZ only)		≤ 20.0	≥ 70.0	mmHg
*pO ₂ (MCHS)		≤ 40.0	-	mmHg
*pO ₂ (AZ)		≤ 45.0	-	mmHg
Phosphorus		≤ 1.0	-	mg/dL
Potassium		≤ 2.5	≥ 6.0	mmol/L
Sodium		≤ 120	≥ 160	mmol/L

TOXICOLOGY/TDM

Test Report Name	Age	Critical Low	Critical High	Units
Acetaminophen, S		-	≥ 120	mcg/mL
Acetone (Volatile Screen), applies to all specimen types		-	Any value detected	mg/dL
Amitriptyline and Nortriptyline, S		-	≥ 300	ng/mL
Butalbital, S		-	≥ 10	mcg/mL
Caffeine, S		-	≥ 30	mcg/mL
Carbamazepine, Total, S		-	≥ 15.0	mcg/mL
Carbamazepine, Free, S		-	≥ 4.0	mcg/mL
Cyanide, B		-	≥ 2.0	mcg/mL
Desipramine, S		-	≥ 300	ng/mL
Digoxin, S		-	≥ 4.0	ng/mL
Disopyramide, S		-	≥ 7.0	mcg/mL
Doxepin and Nordoxepin, S		-	≥ 300	ng/mL
Ethanol, Blood		-	≥ 400	mg/dL
Ethanol, Serum		-	≥ 400	mg/dL
Ethosuximide, S		-	≥ 101	mcg/mL
Ethylene Glycol, S		-	≥ 20	mg/dL
Imipramine and Desipramine, S		-	≥ 300	ng/mL
Isopropanol (Volatile Screen), applies to all specimen types		-	Any value detected	mg/dL
Lidocaine, S		-	> 6.0	mcg/mL
Lead, Blood	0 – 15 yrs	-	≥ 20	mcg/dL

Lead, Blood	≥ 16 yrs	-	≥ 70	mcg/dL
Lithium, S		-	> 1.6	mmol/L
Methanol (Volatile Screen), applies to all specimen types		-	Any value detected	mg/dL
Nortriptyline, S		-	≥ 300	ng/mL
Phenobarbital, S		-	≥ 60.0	mcg/mL
Phenytoin, Total, S		-	≥ 30.0	mcg/mL
Phenytoin, Free, S		-	≥ 2.5	mcg/mL
Primidone and Phenobarbital, S		-		
Primidone			≥ 15.0	mcg/mL
Phenobarbital			≥ 60.0	mcg/mL
Procainamide, S		-		
Procainamide			≥ 10.0	mcg/mL
N-Acetylprocainamide			≥ 40	mcg/mL
Quinidine, S		-	≥ 6.0	mcg/mL
Salicylates, S		-	≥ 50.0	mg/dL
Theophylline, S		-	≥ 20.0	mcg/mL
Valproic Acid, Free and Total, S		-		
Free Valproic Acid			≥ 15	mcg/mL
Total Valproic Acid			≥ 120	mcg/mL
Valproic Acid, Total, S		-	≥ 120	mcg/mL

MICROBIOLOGY

Test Report Name	Critical Value / Critical Result
<i>Acanthamoeba/Naegleria</i> Direct exam or Culture	Identification of <i>Acanthamoeba</i> spp. from CNS or ocular Identification of <i>Naegleria</i> spp. from CNS
<i>Babesia</i> PCR or Smear	Positive result from blood
Bacterial Antigen Test	Positive result from CSF
Bacterial Culture, Aerobic	Positive result from blood, sterile body fluid, normally sterile tissue, or corneal scrapings
Bacterial Culture, Aerobic (also includes Enteric Pathogen Culture and Bacteria/Candida Culture, Blood) or Bacterial Culture, Anaerobic	Identification of <i>Bacillus anthracis</i> , <i>Brucella</i> spp., <i>Clostridium botulinum</i> , <i>Corynebacterium diphtheriae</i> , <i>Francisella tularensis</i> , <i>Vibrio cholerae</i> , or <i>Yersinia pestis</i>
Cryptococcal antigen or India Ink (MCHS)	Positive result from CSF
* Culture CSF - MCHS (Deviation due to methodology difference)	Positive
Fungal Smear or Fungal Culture or PCR	Identification of a Zygomycete, dimorphic pathogen, <i>Cryptococcus neoformans/C. gattii</i> or <i>Pneumocystis</i> spp
Fungal Culture or Mycobacterial Culture	Positive result from CSF or blood
Gram Stain	Positive result from a sterile body fluid, normally sterile tissue, or corneal scraping
Malaria/Filaria/Trypanosome PCR or Smear	Positive result from blood
Parasitic Exam	<i>Strongyloides stercoralis</i> larvae from non-intestinal sites
<i>Streptococcus pneumoniae</i> Antigen	Positive result from CSF
<i>Toxoplasma gondii</i> PCR	Positive result from CSF, amniotic fluid, or ocular specimens
Viral Culture or PCR	Herpes simplex virus from CSF, amniotic fluid, ocular, or brain tissue
Viral Culture or PCR	Positive result from CSF on infant <12 months