

UWHC Clinical Laboratories		Original Date:	January 30, 1998
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*Definitions:*

- Critical Results** are laboratory results that indicate the presence of a life-threatening condition that may be corrected by appropriate and timely intervention.
- Critical Tests** are those which have been identified as needing to be performed and reported as quickly as test procedure permits from the time the specimen is collected and results are important regardless of whether they are normal or abnormal.
- First Instance** rule definition.
  - For inpatients, the laboratory calls critical values the first time the limit is exceeded.
  - A new call is made every 7 days if the value for the test continues to be critical.
  - Whenever a value falls outside the critical range and then becomes critical again, a new call is made.
  - Every call for a critical value starts a new 7 day period.
  - All outpatient critical values are called unless an exception is noted in the table below.

**Policy:** All critical results are communicated as specified in UWHC Hospital Administrative Policy 8.07. All instances are called unless noted differently in the condition column.

General Chemistry and Blood Gas				
TEST	Units	Low Value	High Value	Condition
Ammonia	umol/L	N/A	>80	0-17 years old only
Bilirubin, Total	mg/dL	N/A	>15.0	0-30 days old only
BUN	mg/dL	N/A	> 90	Called for selected patients -see below.* First Instance rule applies for inpatient results that are called.
Calcium	mg/dL	< 6.0	> 12.0	
Calcium, Ionized	mg/dL	< 3.00	> 6.50	
Carbon Monoxide	%	N/A	> 10	
Glucose	mg/dL	< 40	> 400	Pediatric > 300
Lactate	mmol/L	N/A	> 10.0	
Magnesium	mg/dL	< 1.0	> 5.0	
Methemoglobin	%	N/A	> 3.0	
pCO2	mmHg	< 20	> 70	
pH	units	< 7.25	> 7.65	
pO2	mmHg	< 55	N/A	<55 Arterial, Capillary <40 mmHg
Potassium	mmol/L	< 3.0	> 6.0	
Phosphate	mg/dL	< 1.0	N/A	
Sodium	mmol/L	< 120	> 165*	*First instance rule applies
Troponin	ng/mL	N/A	> 0.05	Inpatients - First Instance rule applies Outpatients - Called

\* BUN called if >90 for all ED patients. Inpatients: First instance called to B6/6, F6/6, PP41, PN51, PS54. Outpatients: Not called to OPTX, OPTXC, DIAL, EASD, PERD, KIDNEY, C5/3

Hematology and Coagulation				
TEST	Units	Low Value	High Value	Condition
INR		N/A	≥ 5.0	
Activated Partial Thromboplastin	seconds	N/A	≥ 110.0	Inpatients-First Instance rule applies Outpatients-Called
Fibrinogen	mg/dL	≤ 100	N/A	Inpatients-First Instance rule applies Outpatients-Called
WBC	K/uL	≤ 2.0	≥ 30.0	Inpatients-Not called Outpatients-Called except to Peds and Adult Hem/Onc Clinics and Special Procedures Clinic (SPC)
Hemoglobin	g/dL	≤ 7.0	≥ 18.0	Inpatients-First Instance rule applies Outpatients-Called
Hematocrit	%	≤ 20	≥ 55	Inpatients-First Instance rule applies Outpatients-Called

Hematology and Coagulation				
TEST	Units	Low Value	High Value	Condition
Platelets	K/uL	≤ 20	≥ 1000	Inpatients-First Instance rule applies Outpatients-Called except to Peds and Adult Hem/Onc Clinics
Blasts seen on WBC Differential				Inpatients-called first time per admission Outpatients-Called except to Peds and Adult Hem/Onc Clinics and Pre-stem transplants
Sickle cells seen on WBC Differential				Called on new patients only
Malaria, other organisms and intracellular bacteria seen on slides				Inpatients-First Instance rule applies Outpatients-Called

Body Fluids and Urinalysis				
TEST	Units	Low Value	High Value	Condition
CSF Nucleated Cells	cells/uL	N/A	≥ 25	Not called on ventricular fluids.
CSF Glucose	mg/dL	< 20	N/A	
Microorganisms seen in CSF, Vent, synovial or intraocular fluids				
Urine Chemistry	N/A	N/A	3+ Glucose	University Health Services only
Urine Microscopic	N/A	N/A	Waxy Casts	

Toxicology and Immunosuppressants				
TEST	Units	Low Value	High Value	Condition
Acetaminophen	mcg/mL	N/A	≥ 150	
Amikacin	mcg/mL	N/A	> 35.0	
Amitriptyline	ng/mL	N/A	> 500	Also called if total tricyclic is >500
Caffeine	mcg/mL	N/A	> 40.0	
Carbamazepine	mcg/mL	N/A	> 15.0	
Carb. Metabolite	mcg/mL	N/A	> 3.7	Also called if metabolite >50% of parent
Clomipramine	ng/mL	N/A	> 500	Also called if total tricyclic is >500
Cyclosporine	ng/mL	N/A	> 300	Inpatients - Not called to B4/6 (Abd. TX)
Desipramine	ng/mL	N/A	> 500	Also called if total tricyclic is >500
Digoxin	ng/mL	N/A	> 2.5	
Doxepin	ng/mL	N/A	> 500	Also called if total tricyclic is >500
Ethosuximide	mcg/mL	N/A	> 150.0	
Ethylene Glycol	mg/dL	All results	All results	
Felbamate	mcg/mL	N/A	> 100	
Gentamicin	mcg/mL	N/A	> 12.0	
Imipramine	ng/mL	N/A	> 500 ng/mL	Also called if total tricyclic is >500
Isopropanol	mg/dL	All results	All results	
Lamotrigine	mcg/mL	N/A	> 20.0	
Lidocaine	mcg/mL	N/A	parent + metab. >8.0	
Lithium	mmol/L	N/A	≥ 1.50	
Methanol	mg/dL	All results	All results	
Nortriptyline	ng/mL	N/A	> 500	Also called if total tricyclic is >500
Pentobarbital	mg/dL	N/A	> 1.0	
Phenobarbital	mcg/mL	N/A	> 50.0	
Phenytoin	mcg/mL	N/A	> 30.0	
Phenytoin, Unbound	mcg/mL	N/A	> 3.0	
Plasma HGB	mg/dL	N/A	> 100	
Primidone	mcg/mL	N/A	> 15.0	
Salicylate	mg/dL	N/A	> 50	
Sirolimus	ng/mL	N/A	> 20	Inpatients - Not called to B4/6 (Abd. TX)
Tacrolimus	ng/mL	N/A	> 15	Inpatients - Not called to B4/6 (Abd. TX)
Theophylline	mcg/mL	N/A	> 20.0	
Thiopental	mg/dL	N/A	> 5.0	
Tobramycin	mcg/mL	N/A	> 12.0	
Vancomycin	mcg/mL	N/A	> 30.0	
Valproate	mcg/mL	N/A	> 150.0	

<b>Microbiology / Infectious Disease</b>	
<b>Positive culture / Gram stain / Microscopy - All positive results - Each instance</b>	
Blood	
Blood related sites (e.g. heart valves)	
Bone Marrow	
Pre- and Post-infusion donor Lymphocytes	
Stem Cell Products	
<b>Positive culture / Gram stain / Microscopy - First Instance rule applies if same organism</b>	
Brain	
CSF	
Intraocular Fluid	
Synovial Fluid	
<b>Positive culture / Gram stain / Microscopy - First Specimen per inpatient admission &amp; All outpatients results</b>	
<i>Coccidioides, Blastomyces, Cryptococcus, or Histoplasma</i> from any site	
Fungi other than Candida from all sites except hair, skin, nails, and CF patient sputum -* <b>Microscopy Only</b>	
Non-septate hyphae / Zygomycete from sinus	
<i>Entamoeba histolytica/dispar</i> from any site	
<i>Pneumocystis</i> from any site	
<b>Positive Test - First positive specimen</b>	
Cryptococcal Antigen	
<b>PCR/Antigen - Detected result on spinal fluid specimens - Each instance</b>	
<i>Cytomegalovirus, Enterovirus, Epstein-Barr virus, Herpes Simplex virus, Streptococcus pneumoniae or Varicella Zoster virus</i>	
<b>Transfusion Service</b>	
Suspected ABO incompatible transfusion reaction.	
<b>Referral Laboratory Testing</b>	
Any result identified as critical by a reference laboratory and for which we receive telephone notification will be called.	
<b>Bone Marrow, Immunology, Flow Cytometry, Histocompatibility, Cytopathology and Surgical Pathology</b>	
No test results are considered critical. Courtesy calls will be made as appropriate.	
<b>Critical Tests</b>	
Frozen Section	Called to the appropriate caregiver within 20 minutes of receipt of sample