OHSU Healthcare
Pathology Laboratory Services
Administration

CRITICAL VALUE TEST LIST

Purpose

A critical value occurs when the laboratory obtains a result that is at such variance with normal that the situation for the patient is life threatening unless action is taken in a very short time. There are also many results that need to be reported immediately upon completion so that action may be taken as soon as possible to ensure the best outcome for the patient. In addition, frozen section results need to be transmitted immediately upon completion of testing so the surgeon can take appropriate action in the operating room.

This document lists test results that are considered critical or immediately reportable and laboratory staff should follow established procedures to report appropriately. A related document outlines the policies and procedures that are followed in the lab to ensure quick and reliable communication of all critical results and those needing immediate attention by patient caregivers.

Policy

It is the policy of the Pathology Laboratory Services Department that critical results are called to a licensed independent practitioner (LIP--this is the physician or responsible care provider) immediately upon completion; and other results are reported immediately to ensure optimal patient care. Consistent with Hospital Policy HC-NPSG-100-RR, "Critical Results of Tests and Diagnostic Procedures," notification of the LIP should occur within 30 minutes of receipt of result.

Related Documents:

Critical Value Reporting Policy and Procedure
Critical Results of Tests and Diagnostic Procedures HC-NPSG-100-RR—hospital policy

List of Critical Values and Immediately Reported Results

CHEMISTRY CRITICAL RESULTS		
TEST	**LOW**	**HIGH**
Acetaminophen μg/mL	N/A	≥80
Alcohol mg/dL	N/A	≥400
Ammonia μmol/L	N/A	≥150
Amylase, Serum U/L	N/A	≥1000
Calcium mg/dL (corrected for hypoalbuminemia)	≤7.0	≥13
Carbamazepine μg/mL	N/A	≥20
Carbon Monoxide/Carboxyhemoglobin %	N/A	≥20.0
CO_2, Total (Plasma/Serum) mmol/L	≤12	≥40
Digoxin ng/mL	N/A	≥2.5
Gentamicin μg/mL	Trough ≥2.0	
	Peak and Random ≥12.0	
Glucose mg/dL	≤50	≥500
Glucose Neonate, (< 1 mo.) Capillary mg/dL	≤40	≥300
Hgb g/dL	≤6.5	≥19.0
Lipase U/L	N/A	≥3400

Lithium mmol/L	N/A	≥2.0
Magnesium mg/dL	≤0.9	≥5.0
pCO_2, Arterial or Capillary	≤20	≥70
pH, Arterial or Capillary	≤7.25	≥7.55
Phenobarb μg/mL	N/A	≥60
Phenytoin μg/mL	N/A	≥40
Phosphorus mg/dL	≤0.9	N/A
pO_2, Arterial	≤50	N/A
pO_2, Capillary	≤35	≥90
Potassium mmol/L	≤2.5	≥6.0
Salicylate mg/dL	N/A	≥35
Sodium mmol/L	≤120	≥160
Sweat Chloride (≤ 6 mo.) mmol/L	N/A	≥30
Sweat Chloride (> 6 mo.) mmol/L	N/A	≥40
Theophylline μg/mL	N/A	≥30.0
Tobramycin μg/mL	Trough ≥2.0	
	Peak and Random ≥12.0	
Total Bili-Cordblood mg/dL	N/A	≥3.5
Total Bili-Neonate mg/dL (< 1 mo.)	N/A	≥15.0
Troponin-I ng/mL (with no previous result ≥ 0.80 ng/mL)	N/A	≥0.80
Valproic Acid μg/mL	N/A	≥200.0
Vancomycin μg/mL	Trough ≥40	
	Peak and Random ≥80	

HEMATOLOGY AND COAGULATION CRITICAL RESULTS		
TEST	**LOW**	**HIGH**
APTT sec	N/A	≥140
AT III U/mL (≥6 mos)	<0.70	
Differential	Presence of ≥5% Atypical Cells With No Previous on Smear	
Fibrinogen mg/dL	≤50	
Hct %	≤20.0	≥60.0
Hgb g/dL	≤6.5	≥19.0
INR	≤0.5	≥5.10
Platelets K/mm^3	≤30	≥1000
WBC K/mm	≤1.0	≥30.0

CSF and BODY FLUID CRITICAL RESULTS	
TEST	**RESULT**
Body Fluid WBC /mm^3	≥1000
CSF Total WBCs /mm^3 (>60 days)	≥20
CSF Total WBCs /mm^3 (<60 days)	≥30
Differential	Intracellular bacteria, malignant cells, atypical cells, if no previous
Synovial Fluid WBC /mm^3	≥25,000
URINALYSIS	
Microscopic	Presence of Red Cell Casts

TRANSFUSION SERVICES	
TEST/RESULT	**CRITICAL**
Transfusion reaction	All acute hemolytic transfusion reactions
Antibody ID or Unidentified	If workup time may cause delay in patient care or surgery
Blood products not available	For heart, lung, or heart/lung transplants
Bone marrow testing	Results indicate patient suspected of reverting back to native type
Cord Blood	Positive direct antiglobulin test
Shortage of blood, rbc, platelets	If transfusion or surgery must be postponed
Physician request	Call physician if requests results or availability
Specimen quality	Specimen unacceptable for testing

SPECIALITY LABS AND COAGULATION	
TEST	**CRITICAL RESULT**
Cyclosporine	≥500.0 ng/mL
Factor Assays: Factor X, Chromogenic, Von Willebrand Factor, Von Willebrand Antigen	<0.05 U/mL with previous history
Galactomannan	New positives
PF4 (Heparin Antibody Level)	Positives
HIV antibody—confirmed by Multispot or molecular techniques	Positive
Sirolimus	≥25.0 ng/mL
Tacrolimus	≥20.0 ng/mL
Vitamin D	>150 ng/mL

MICROBIOLOGY and OFF SITE TESTING			
TEST	**Critical Result**	**Comments**	
In addition to this list, all critical results reported from referral labs are phoned within 30 minutes.			
Gram Stain	Positive		
Blood Cultures first bottle	Positive	Result called if confirmed by gram stain and molecular testing	
Blood Culture second bottle	Positive	Call if organism different from first bottle, and confirmed by gram stain and molecular testing	
AFB Culture	Positive		#U
Mycobacterium Species isolated: MTB, MAI, MAC	Positive	In addition to call, a report is faxed to 4-6692 (Infection Control Dept)	#U
Mycobacterium Tuberculosis (MTB)	Positive	In addition to call to provider, if patient is from Multnomah County, call 503-988-3417	#U
Aspergillus species - any source (OHSU only)	Positive		
Bordetella Pertussis PCR	Positive	In addition to call, a report is faxed to 4-6692 (Infection Control Dept)	#
Carbapenem resistant Enterbacteriacea (CRE)	Positive	In addition to call, a report is faxed to 4-6692 (Infection Control Dept)	
Clostridium Difficile, toxigenic	Positive		
Corynebacterium diphtheriae - State Lab test	Positive	In addition to call, a report is faxed to 4-6692 (Infection Control Dept)	#U
Cryptococcal Antigen	Positive		
Cryptococcus species on culture	Positive		
CSF Cultures and Gram Smears	Positive		
Gonococcus Cultures	Positive		#U
Herpes Virus from infant <2 months old	Positive		
Influenza	Positive		
Legionella Urine Antigen positives	Positive		#
Neisseria meningitidis isolated in culture	Positive		
Norovirus, Stool	Positive	In addition to call, a report is faxed to 4-6692 (Infection Control Dept)	
Parasite Exam: All positive	Positive		#U
Pneumocystis DFA - positive result	Positive		
RSV, Positive	Positive		#
Shiga toxin 1 and/or 2	Positive		#U
Stool Cultures: Salmonella, Shigella, Campylobacter, E coli 0157,Vibrio cholerae, Yersinia sp.	Positive		#U
Sterile Site- Gram Stain or Culture (Body Fluids, Tissues, Sterile Eye site)	Positive		
Spordi	Positive		
Vancomycin Resistant Enterococci VRE	Positive		#i

U Indicates computer report sent to State or County Health Depts based on positive results
i Indicates isolate will be frozen and saved by Kaiser Microbiology.
# Indicates a computer report will be sent to Infection Control Department based on positive results

ANATOMIC PATHOLOGY	
Test	**ACTION**
Frozen Sections	Phone all results to physician immediately upon completion

FLOW CYTOMETRY	
Test	**ACTION**
Fetal Red Cells	Call results on trauma patients