

BASSETT MEDICAL CENTER POLICY		DEPARTMENT(S): Laboratory	REVISION #: #05 - 2020	POLICY #: 9-CL 4.15-MSP
SPONSORED BY: S. Bonderoff, VP, Patient Services	PREPARED BY: T. Williammee, Network Dir, Laboratory	APPROVED BY: Medical Board 07/20/2020	DATE ISSUED: 10/16/2006	EFFECTIVE DATE: 07/20/2020
TITLE: Laboratory Critical Test and Critical Results/Values				PAGE #: 1 of 9

KEY WORDS

- | | |
|---------------------|--------------------|
| 1. Lab Results | 4. Priority |
| 2. Life Threatening | 5. Critical Values |
| 3. Telephone | |

A. GENERAL POLICY STATEMENT

This policy identifies critical tests, critical results/values that have been designated as potentially life threatening or significant enough to immediately notify the ordering or covering practitioner or designated medical professional by telephone so that there will not be delays in treatment for the patient.

B. SCOPE

This policy applies to all areas within Bassett Medical Center (Bassett).

C. ACCOUNTABILITY

The Clinical Laboratory Director and the Network Laboratory Director will be responsible for the implementation of this policy.

D. POLICY ELEMENTS

- Critical test results are communicated only for identified tests whether positive or negative. Within Bassett, the identified critical test is as follows: Frozen sections from the Operating Room.
- Identified critical tests are communicated immediately or within 60 minutes from the time of order, from the testing area, to the ordering or covering practitioner or designated medical professional.
- Critical results/values are communicated only for identified tests that have a given result within a defined range. Within Bassett, the identified critical results/values follow.
- Identified critical results/values are communicated immediately upon completion of the test or within 30 minutes regardless of the test order (Routine vs. Stat) from the laboratory testing area to the ordering or covering practitioner or designated medical professional. The process for communication and any exceptions to this are detailed in a Department procedure - Communication of *Laboratory Critical Values Procedure*.
- Reporting of results generally goes to the ordering or covering practitioner. Other designated medical professionals (qualified individuals who are authorized to accept critical values as defined by New York State Department of Health [NYS DOH]) may also be notified. This includes physicians, residents, PGY1's, physician assistants, nurse practitioners, nurse midwives or other individuals defined by

law. Some registered nurses (RNs) or pharmacists (PharmD) may accept results for tests where written protocols exist for immediate action.

6. The recipient must read back all critical test and critical result/value communication to the caller--date, time, recipient name and title (where appropriate)--and read back must be documented in the Laboratory Information System (LIS).
7. The Laboratory collects data on the timeliness of reporting critical tests and critical results/values. The data is assessed periodically and opportunities for improvement are reviewed. Results are reported to the Safety Action Council (SAC).

E. COMMUNICATION

This policy will be communicated via email to all Directors, Managers, Chiefs of Service, and Executive Operations Team members.

F. DISTRIBUTION

This policy will be placed online in the Administrative and Medical Staff Policy Manuals.

G. ENFORCEMENT:

The Vice President (VP), Ancillary Services is responsible for compliance with this policy.

H. REVISION:

The VP, Ancillary Services is responsible for making revisions to this policy.

I. REFERENCES

1. Hematology critical values were developed with the advice of the Hematology/ Oncology Group and the Transfusion Committee.
2. Microbiology critical values were developed in cooperation with the Infectious Disease Department, Infection Control Committee and the following references:
 - a. *Performance Standards for Antimicrobial Susceptibility Testing; 26th edition*, CLSI M100, Wayne PA
 - b. *Antibiotic guidelines-2016 Johns Hopkins Medicine Website:*
www.hopkinsmedicine.org/amp
 - c. New York State Department of Health Communicable Disease Reporting-
https://www.health.ny.gov/forms/instructions/doh-389_instructions.pdf
3. Chemistry critical values were developed and approved by Valerie Bush, PhD, Clinical Laboratory Director, with input from practitioner staff and Pharmacy.
4. The Joint Commission, 2017 National Patient Safety Goals.

Attachment A

CHEMISTRY CRITICAL RESULTS/VALUES

Analyte

Priority	General Chemistry	Below	Above	Units
1	Bilirubin, neonate	---	15.0	mg/dl
1	Glucose (blood)	40	---	mg/dl
1	Glucose (neonatal)	45	---	mg/dl
1	Magnesium	1.0	4.0	mg/dl
1	Lactic Acid	---	3.9	Mmol/L
1	Phosphorus	1.0		mg/dl
1	Potassium	2.8	6.0	mmol/L
Total Protein (CSF)				
1	Total Protein (CSF)		100	Mg/dl
Calcium, total				
2	Calcium, total	6.0	13.0	mg/dl
Calcium, ionized				
2	Calcium, ionized	3.0	6.5	mg/dl
Carbon Dioxide				
2	Carbon Dioxide	10	45	mmol/L
Glucose (blood)				
2	Glucose (blood)	---	450	mg/dl
Sodium				
2	Sodium	120	155	mmol/L
Osmolality (serum)				
2	Osmolality (serum)	265	320	Mosmo/kg
Troponin, high sensitivity				
2	Troponin, high sensitivity	---	100	pg/ml
Blood Gases/Stat Lab				
PH (arterial/venous)				
1	PH (arterial/venous)	7.25	7.60	Units
pCO2 (arterial/capillary)				
1	pCO2 (arterial/capillary)	23	60	MmHg
pO2 (arterial/capillary)				
1	pO2 (arterial/capillary)	45	---	MmHg
Hematocrit				
1	Hematocrit	21	60	%
Hemoglobin				
1	Hemoglobin	7.0	---	g/dl
PH (cord blood)				
1	PH (cord blood)	7.10		Units
Carboxyhemoglobin				
2	Carboxyhemoglobin	---	30	%COHb
TDM/Toxicology				
Acetaminophen				
1	Acetaminophen	---	40	ug/ml
Alcohol				
1	Alcohol	---	300	mg/dl
Carbamazepine				
1	Carbamazepine	---	15.0	ug/ml
Digoxin				
1	Digoxin	---	2.4	ng/ml
Gentamicin (trough)				
1	Gentamicin (trough)	---	2.0	ug/ml
Gentamicin (peak, random)				
1	Gentamicin (peak, random)	---	18.0	ug/ml
Lithium (Age <60 yrs)				
1	Lithium (Age <60 yrs)	---	1.5	mmol/L
Lithium (Age >60 yrs)				
1	Lithium (Age >60 yrs)	---	1.2	mmol/L
Phenobarbital				
1	Phenobarbital	---	40.0	ug/ml
Phenytoin (total)				
1	Phenytoin (total)	---	25.0	ug/ml
Salicylate				
1	Salicylate	---	30.0	mg/dl
Theophylline				
1	Theophylline	---	20.0	ug/ml
Tobramycin (trough)				
1	Tobramycin (trough)	---	2.0	ug/ml
Tobramycin (peak, random)				
1	Tobramycin (peak, random)	---	18.0	ug/ml
Valproic Acid				
1	Valproic Acid	---	125.0	ug/ml
Vancomycin (trough)				
1	Vancomycin (trough)	---	20.0	ug/ml
Vancomycin random				
1	Vancomycin random	---	30.0	ug/ml
Vancomycin (peak)				
1	Vancomycin (peak)	---	70.0	ug/ml

NOTES:

- Priority 1 chemistry critical results/values are always called regardless of how often the test is requested.
- Priority 2 results/values: Once the practitioner or designated medical professional has been notified, subsequent critical results for the same

test from the same facility will not be called unless the value has not been reported within the last three (3) days **or** the critical value has become worse and failed a delta check. Document as "previous CV called on (date) " in the LIS.

Attachment B

HEMATOLOGY CRITICAL RESULTS/VALUES

Priority	Analyte	Population	Critical Value		Units
			Below	Above	
1	Hematocrit	< 1 month >1 month	35.0 21.0	60.0 60.0	%
1	Hemoglobin	All	7.0	---	g/dl
1	Platelet count	All	20	1000	x10 ³ cells/ul
1	APTT	On heparin NO heparin	---	* *	Seconds Seconds
1	INR	All	---	4.4	---
2	WBC	Newborn 0- 1 month > 1 month	2.0 1.0	30.0 25.0	x10 ³ cells/ul x10 ³ cells /ul
2	Cerebrospinal fluid WBCs	Adults (>18years) Children (1<18years) Infants (0-1 year)	---	10 8 23	cells/ul
2	Peritoneal dialysate WBC's	All	---	100	cells/ul
2	Urine glucose	OB or Peds (<18y) only	---	100	mg/dl
2	Urine ketones	OB or Peds (<18y) only	---	40	mg/dl

NOTES:

*Critical value levels for APTT vary slightly annually due to changes in reagent lot numbers. Refer to Laboratory Manual on Bassett Intranet for current value.

- Priority 1 hematology critical results/values are always called regardless of how often the test is requested to the ordering practitioner. PharmD or RNs covering a patient may accept critical values under a protocol.
- Priority 2 results/values: Once the practitioner or designated medical professional has been notified, subsequent critical results for the same test from the same facility will not be called unless the value has not been reported within the last three (3) days or the critical value has become

worse and failed a delta check. Document as "previous CV called on
(date)_____ " in the LIS.

Attachment C

MICROBIOLOGY CRITICAL RESULTS/VALUES

The following results must be called to the practitioner or designated medical professional in the timeframe noted in D.4. above. All Critical value results with the exception of gram stains will be reported to Infection Control via workbench reports when identified. A ♣ symbol indicates that the result must be called to Infection Control as well as the covering provider when identified, or on the next business day.

<u>Immunology or Parasitology Test</u>	<u>Body Site/Source</u>	<u>Critical Value Trigger</u>
Cryptococcal antigen	CSF or serum	Positive
<u>Molecular Test</u>	<u>Body Site/Source</u>	<u>Critical Value Trigger</u>
COVID-19 RNA	Nasopharyngeal, Throat, Nasal	Positive/Detected

<u>Microbiology Stains</u>	<u>Body Site/Source</u>	<u>Critical Value Trigger</u>
Gram Stain	Normally sterile body fluids* or tissues^	Any organism
AFB Stain	Any site	Any Acid Fast Bacilli seen ♣ Also notify Infection Control
Fungal Stain	Normally sterile body fluids* or tissues^	Any yeast or hyphal element
Blood Parasite Stain	Any site	Any parasitic organism
Aerobic Anaerobic Fungal Yeast AFB Mycobacteria	Normally sterile body fluids* or tissues^	Any organism

<u>Microbiology Culture</u>	<u>Body Site / Source</u>	<u>Critical Value Trigger</u>
Aerobic Anaerobic Fungal Yeast AFB Mycobacteria	Normally sterile body fluids* or tissues^	Any organism
Aerobic	Any site	Highly Resistant Organisms - <ul style="list-style-type: none"> • Extended Spectrum Beta Lactamase (ESBL) producing gram negative bacilli for Inpatients Only • Carbapenem-resistant Enterobacteriaceae (CRE/KPC)# • Vancomycin intermediate or resistant Staph aureus
Aerobic Fungal Yeast AFB Mycobacteria	Any site	Mycobacterium species Dimorphic fungi - <ul style="list-style-type: none"> • Coccidioides • Histoplasma • Blastomyces • Penicillium marnefferi
Aerobic Anaerobic	Any site	Potential bacterial agents of bioterrorism- <ul style="list-style-type: none"> • <i>Bacillus anthracis</i> • <i>Francisella tularensis</i> • <i>Yersinia pestis</i> • <i>Brucella species</i> • <i>Burkholderia mallei</i> and <i>Burkholderia pseudomallei</i> • <i>Clostridium botulinum</i>

KEY:

* Sterile fluid: i.e. Spinal fluids, pleural fluid, peritoneal fluids, joint fluids, blood

^ Sterile tissue: i.e., Surgical samples - such as kidney, liver, brain, spleen, cardiac tissue, etc.

Enterobacteriaceae **NOT** including *Pseudomonas aeruginosa*, *Morganella sp.*, *Proteus sp.*, *Providencia sp.*, *Burkholderia sp.*, *Stenotrophomonas sp.* (this includes confirmed KPC/CRE organisms).

♣ Results must also be called each time to Infection Control.

NOTE:

Critical values that were previously positive do not have to be called again, unless the patient had a negative result in between and there is no change in the result value, with the exception of AFB stains, AFB cultures, Potential Bioterrorism Agents or Dimorphic fungi.

Attachment D

BLOOD BANK CRITICAL RESULTS/VALUES

The following results will be called to the ordering or covering practitioner **and** the Transfusion Service Director or covering pathologist.

1. Suspected acute or delayed hemolysis due to transfusion or HDN.

REFERENCE LABORATORY CRITICAL RESULTS/VALUES

Our reference laboratories have established values for key laboratory tests that may be life threatening and may require immediate attention and/or action. Their protocol includes phone notification of the "critical value result." This information will be phoned to appropriate laboratory. It is the responsibility of the person receiving the call to relay this information to the ordering or covering practitioner, using the following guidelines:

- a. Whenever taking phone results make sure to repeat the values to the caller for verification. You will be given the patient's name, patient identifier and test result.
- b. Ask the normal or reference range (or in the case of drugs, the therapeutic range) so this information can also be given to the practitioner.
- c. Make sure to ask the caller's name if it isn't provided.
- d. Call the practitioner or designated medical professional as per procedure.
- e. Document the call information in the LIS when verifying the final reference lab report.