

D.19 ESTABLISHMENT, REPORTING AND MONITORING OF EMERGENT LABORATORY TEST RESULTS (CM 11-13, JANUARY 15, 2015)

VA WESTERN NEW YORK HEALTHCARE SYSTEM

January 15, 2015

CENTER MEMORANDUM **NO. 11-13**

ESTABLISHMENT, REPORTING AND MONITORING OF EMERGENT LABORATORY TEST RESULTS

1. **PURPOSE:**

- A. To define the process by which laboratory tests and/or results are designated as critical.
- B. To define the process for updating the list of tests and/or results designated as critical.
- C. To define the procedure for emergent provider notification of critical test results.

2. **POLICY:**

A. **Definitions:**

- (1) **ABNORMAL RESULT:** Is a diagnostic finding that requires attention by the ordering practitioner, but not necessarily in an immediate time frame. These may be communicated by either direct or electronic means.
- (2) **CRITICAL RESULT:** A test value that is outside established critical limits as a critical value will be directly communicated to a responsible healthcare provider. (These include results considered critical by the Reference Lab where we send them for testing.)
- (3) **CRITICAL TEST:** A test that requires emergent communication of ALL results, whether normal, abnormal or critical.
- (4) **DIRECT COMMUNICATION:** Verbal conversation either face-to-face or via telephone, and/or direct handoff of a printed result.
- (5) **EMERGENT TEST RESULT (includes CRITICAL TESTS AND CRITICAL RESULTS):** A laboratory test result that is associated with a high likelihood of poor patient outcome within a short time period unless immediate therapeutic intervention or close monitoring is performed. (Defined in this center memorandum - Attachment A)
- (6) **VERIFIED RESULT:** Result available in the electronic medical record after completion of all quality checks in the laboratory and is visible to all providers.

B. **Responsibilities:** This memorandum applies to all providers, registered nurses, and Pathology and Laboratory Medicine (PALM) personnel.

- (1) Critical tests and critical result limits will be determined by the Medical Director of PALM in conjunction with the Medical Staff. They are also responsible for reviewing this list biennially and to modify it as needed. Network input is required before changing any V2 tests.
- (2) The Executive Committee of the Medical Staff (ECMS) is responsible for approving this memorandum including the list of critical tests and critical results.
- (3) PALM staff is responsible for recognizing the critical test result, verifying the result in the computer (so it will be available in the electronic medical record) and immediately starting to call the ordering provider.
- (4) The monitoring of turnaround times will be performed by the service contacting the provider (either Lab or Nursing) as per their internal protocol.
- (5) The Hospitalist/Medical Officer of the Day (MOD) is responsible for receiving critical test results during non-administrative hours on all outpatients, and Primary Care and Long Term Care inpatients (see Attachment C).
- (6) If no provider is reached after using the appropriate call lists the ultimate responsibility for receiving and acting on critical test results lies with the chief of service and then the chief of staff.

3. **PROCEDURES:**

A. **Order entry:**

- (1) Electronic order entry (directly into the patient's electronic medical record -CPRS) is always preferred.
- (2) If for some reason, electronic order entry cannot be used, the manual laboratory requisition form must include the first and last name of the requesting provider, the ward or clinic location and a telephone extension and/or pager number to facilitate communication. (This is in addition to the required patient information)

B. **Computer Notification:**

- (1) An "Electronic Alert" is generated upon "verification" of critical numeric lab results and transmitted to the ordering and attending providers.
- (2) A view alert can also be generated for *abnormal* results if the provider chooses to set up his/her computer alert option in this fashion.

C. **Direct Communication:**

- (1) All emergent test results (critical results and/or tests) must be transmitted to a responsible provider by **direct communication**. Critical results will be communicated within 30 minutes of the lab becoming aware of the result. Critical tests (all results) will be communicated within 20 minutes of when the test is ordered.
 - a. If the ordering provider is not reached within 10 minutes PALM staff will use the applicable flow sheets and flow charts to determine the next responsible provider.
 - b. Critical lab values from the Intensive Care Unit (ICU), Operating Room (OR), the Emergency Room (ED), or potassium values from Dialysis may be reported to a registered nurse or a provider.

- c. Nurses staffing ICU, OR, ED and Dialysis will follow the protocols established in their department to act upon the critical test results or will provide information to the responsible licensed caregiver so the patient can be promptly treated.
 - d. Printouts of all blood gas results from an identified "code" may be handed to the person who delivers the sample to be delivered immediately to the provider running the code. However, the laboratory must still call and document all blood gas results from a code. Results may be given to a nurse.
- (2) Pathology and Laboratory Medicine personnel reporting critical test results will clearly identify the purpose of the notification, the laboratory test result(s), and any other pertinent information (i.e. sample hemolysis, lipemia, potential mis-draw, the normal or therapeutic range if requested, etc). A verification "read-back" is required by the person receiving the emergent test results (critical value) to confirm that the information was understood correctly.
- (3) Individuals performing ancillary testing are responsible for knowing the critical limits for each test performed. If a result falls outside the critical limits, the provider must be notified within 30 minutes (unless other orders exist). For example, providers must be notified of any glucose result that falls within the critical range of less than 50 mg/dl or greater the 450 mg/dl unless there is a treatment protocol in place defining what steps need to be taken to act on the critical value.
- a. A verification "read-back" is required by the person receiving the point of care critical value to confirm that the information was understood correctly.

D. Documentation:

- (1) The laboratory staff member relaying the critical laboratory result will document the following in Vista under "comments" which are displayed with the test results: that read-back has been performed by using the code "CVCR" (critical value called, read back performed), the time and date of the notification, the name of the test, the name (and title) of the person to whom the results were given, and their initials.
- (2) For ancillary testing the notification of the critical test result with read-back must be documented in the patient record according to protocol (refer to Center Memorandum 113-9).

E. Monitoring: PALM and nursing service will each have a tracking process in place to measure and if necessary improve the timeliness of reporting and the timeliness of receipt by the responsible licensed caregiver to avoid any unnecessary delays in treatment.

- 5. **REFERENCES:** Comprehensive Accreditation Manual for Hospitals: The Official Handbook (CAMH), VHA Directive 2009-019, Center Memorandum 11-16 Intensive Care Unit (see attachments), Center Memorandum 111-2 Hemodialysis Unit (Potassium Critical Values Protocol Attachment), Center Memorandum 113-9 Fingerstick Glucose Testing Policy, Laboratory Communication Policy (PALM SOP).
- 6. **RESCISSION:** Center Memorandum No. 11-13, dated December 10, 2012
- 7. **AUTOMATIC REVIEW DATE:** January 1, 2018
- 8. **FOLLOW-UP RESPONSIBILITY:** Director, Pathology & Laboratory Medicine (113)

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Medical Center Director

Attachment: A

DISTRIBUTION: 1 copy each (00, 00QM, 11, 113)

March 1, 2015

CENTER MEMORANDUM **NO. 11-3****EXECUTION OF PROVIDER'S ORDERS – ATTACHMENT A**

Critical Test: An Arterial Blood Gas collected during a cardiac arrest (code) is deemed a Critical Test and as such must be reported to the physician leading the code within 20 minutes of order.

Critical Results:A. Chemistry:

	<u>Less than or equal to</u>	<u>Greater than or equal to</u>
Glucose	50 mg/dl	450 mg/dl
Sodium	120 mEq/L	160 mEq/L
Potassium	3.0 mEq/L	6.2 mEq/L
Calcium	6.6 mg/dl	12.5 mg/dl
Magnesium	0.8 mg/dl	4.0 mg/dl
Blood Gas pH	7.25	7.5
Blood Gas PO ₂	50 mmHg	

B. Hematology:

	<u>Less than or equal to</u>	<u>Greater than or equal to</u>
WBC	2 K/mm ³	40 K/mm ³
Neutrophils, ABS	0.5 K/mm ³	
Hemoglobin	7g/dl	20g/dl
Hematocrit	20%	60%
Platelets	30 K/mm ³	1,000 K/mm ³
INR**		4
Partial Thromboplastin Time (PTT)		115 seconds
Spinal Fluid Cell Count (nucleated fluid cells)		10 NFC/mm ³

****INR**

1. Batavia / Warsaw patients with “BA-COUM or BA-COUM-SPEC locations - the critical value for INR is >4.5
2. Buffalo patients with “W.COUM” location - the critical value for INR is >4.5

ATTACHMENT A CONTINUED

C. Toxicology:

	<u>Greater than or equal to</u>
Acetaminophen	150 mcg/ml
Digoxin	2.5 ng/ml
Ethanol	400 mg/dl
Carbamazepine	15 mcg/ml
Gentamycin peak	12 mcg/ml
Lithium	2 mEq/L
Phenobarbital	60 mcg/ml
Phenytoin	25 mcg/ml
Quinidine	6 mcg/ml
Salicylates	30 mg/dl
Theophylline	25 mcg/ml
Valproic Acid	125.1 mcg/ml
Vancomycin peak	40 mcg/ml
Vancomycin trough	20.1 mcg/ml

D. Microbiology:

- (1) The patient's healthcare provider will be notified when bacteria are recovered from a sterile body site (i.e. positive sterile body fluid including CSF – smear or culture, positive blood culture, positive AFB – smear or culture, or positive blood or tissue parasites including malaria.)

E. Blood Bank:

- (1) Suspected Transfusion Reaction Workups
 - a. Direct Antiglobulin Test – Positive results only.
 - b. Suspected hemolytic reactions or bacterial contamination.
- (2) Significant delay in blood or blood product availability.

F. Serology:

- (1) Cryptococcal Antigen – positive