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ONBASE POLICY ID: 5110 | **P&P REF #** 07-83-287
POLICY STATUS: FINAL | **DOCUMENT TYPE:** Policy/Procedure
EFFECTIVE DATE: 7/8/2015 | **PROPOSED BY:** Laboratory
REVISION DATE: | **RESPONSIBLE DEPT:** Laboratory (multidisciplinary-needs all stakeholder approvals-Housewide Quality Comm)
Class: AWH-multi-3

VERSION HISTORY: 7/8//2015, 9/23/2013, 6/25/2012, 7/26/2011, 4/14/10, 6/10/08, 7/10/07, 8/8/06, 8/10/05, 6/29/04, 11/25/03

Update approvals: Risk Manager, Mary Reigel: 7/8/2015; EVL Manager, Karen Jones: 7/8/2015

History of Comm/Date/Approvals: Director of Respiratory Therapy: 4/9/2013, Director of Radiology:7/2/2013; Director of Echo Vascular: 5/8/2013; Director of Laboratory: 4/11/2013; Director of Cardiopulmonary: 5/8/2013;Housewide Quality Committee: 3/20/2013;s: Laboratory Manager/Director: 5/2/2012, 6/21/2011, 2/13/09; Lab Management Team: 2/13/09; Cardiopulmonary Lab Echovascular Department Director: 2/09/10; Laboratory Leadership Team: 3/2/05, 10/99; Director of Laboratory: 2/29/08, 7/10/07, 8/8/06, 3/2/05, 11/3/03; Radiology Director: 2/9/10, 2/29/08; Echovascular Department Director: 3/17/08; Department of Pathology: 6/1/09, 3/3/08; Medical Staff Review: 8/26/09; Housewide Practice Council: 2/18/2014, 5/15/2012, 6/21/2011, 3/16/2010, 9/15/09, 3/18/08; Patient Care Standards: 2/18/2014,5/15/2012 (V), 6/21/2011, 3/16/2010, 9/15/09, 3/18/08, 4/27/05; QRC: 3/4/2014, 9/2/2013, 6/6/2012, 7/5/2011, 4/4/10, 6/3/08, 8/2/05,12/3/02; MEC: 3/11/2014, 9//9/2013, 6/12/2012, 7/12/2011, 4/13/10, 6/10/08, 8/9/05, 12/10/02; Accountability Com. 3/17/2014, 9/15/2013, 6/18/2012, 7/18/2011, 4/14/10, 8/10/05, 1/8/03; Board of Directors: 3/25/2014, 9/23/2013, 6/25/2012, 7/26/2011; Nursing Quality Council: 2/10/2014, Director of Laboratory: 4/2/2014

SUBJECT: CRITICAL RESULTS REPORTING

PURPOSE:
TO ESTABLISH GUIDELINES FOR NOTIFICATION, DOCUMENTATION AND FOLLOW UP FOR DEFINED CRITICAL RESULTS.

AREAS AFFECTED/STAKEHOLDER(S):
Laboratory Department—excludes Aspirus Clinics Laboratory and Provider Based Clinics
Respiratory Therapy
Radiology Department—excludes Aspirus Clinics Radiology
Medical Staff
All Patient Care Areas
Health Information Management
Aspirus Reference Laboratory Clients
Echo/Vascular Department

DEFINITIONS:
Provider: Any licensed independent provider who would be responsible for ordering and/or acting on the results of diagnostic testing in either the inpatient or ambulatory settings. Providers are those individuals who have clinical privileges and are required to be credentialed within the hospital. (These individuals are typically MDs, DOs, APNPs and PAs.)

Responsible Licensed Caregiver (RLC): RN, RT or other licensed non-credentialed provider

Critical Result**:** Any result that indicates the patient is in imminent danger of death, significant morbidity, or serious adverse consequences unless treatment is initiated immediately.
Laboratory Critical Result baseline values are defined and approved by

1. Laboratory Medical Director for Laboratory Values: Establishes list for review and acceptance by the AWH Medical Staff and updates, as requested.
2. The Provider may work collaboratively with nursing staff in the respective clinical areas to further refine what is to be considered critical for the patient's medical condition and to develop orders and/or use protocols.

POLICY FOR REPORTING and DOCUMENTION FOR CRITICAL RESULTS:

I. Communication for Point of Care testing:

A. When Provider is present: Results of all tests performed are communicated to the provider or mid-level provider immediately upon completion of the result.

B. When the provider is not present: the RLC will notify the provider within 30 minutes of receiving the critical result unless:

1. There are pre-established guidelines/protocols or orders related to the critical value that determine what actions will be taken.

2. Respiratory Therapy will follow physician driven protocols and orders when addressing critical values. When critical value results fall outside the range of the orders and protocols, the physician will be notified within 30 minutes and respiratory staff will document accordingly.

II. Documentation of communication and response to critical results:

A. Immediate provider-to-provider communication completes the communication cycle and does not require any further documentation. (Documentation of this direct communication may be referenced by the provider on the results of the diagnostic report or within the care plan.)

B. Point of care results, because they are either communicated directly to the provider or acted upon by the RLC, adheres to standardized care plan documentation and is documented in the appropriate section of the medical record.

C. Cardiopulmonary: Confirmation via telephone that results, via transmitted document, cardiopulmonary, were received

1. Cardiopulmonary Technologist completing EKG will notify RN caring for patient with critical finding. Documentation will be completed in EPIC fast note.

2. Cardiopulmonary Technologist completing holter scan will notify reading physician of suspected critical finding. Documentation will be completed in EPIC fast note.

3. Results are communicated as a critical result by the interpreting physician directly to the referring/ordering provider by phone urgently (<60minutes) and are documented as such in the dictation of the study that resides in the EMR (EPIC).

Critical Results Criteria for ECG

1. Heart rate less than 34 beats per minute for any reason unless temporary pacer present
2. Sustained Ventricular Tachycardia
3. Sustained Ventricular Fribrillation
4. Torsades de Pointes
5. Symptomatic Type 2 2nd degree heart block
6. Third degree heart block
7. Acute MI
8. Sustained SVT of 150 beats per minute or greater

Critical Results Criteria for Holter Monitor

1. Episodes of frequent intermittent Ventricular Tachycardia with episodes of 6 beats or longer
2. Sustained episodes if Ventricular Tachycardia lasting more than 10 seconds or longer
3. Bradycardiac consistently 34 beats per minute or less
4. Frequent and consecutive pauses of 3.00 seconds or longer
5. Complete Heart Block
6. Sustained episodes of SVT with or without symptom correlation

D. For laboratory results:

1. Immediately (goal of < 30 minutes) upon availability of lab results, Lab tech contacts the clinical area where the patient is located and speaks directly with the Provider or the RLC responsible for the care of the patient and documents the Test and result being called, called to and read back by- first and last name, Date (xx/xx), Time, and initials of Tech.

2. Critical result read back occurs.

3. RLC receiving the result should be the RLC responsible for the care of the patient, if available. The RLC responsible for the care of the patient is accountable for notification to the Provider within 30 minutes from the time the lab contacted the patient care area with the results. The RLC responsible for the care of the patient is responsible for documentation of receipt of result and actions taken using the Critical Value Flow Sheet in the medical record.
   a. Documentation includes: Critical result name, name of provider, and time provider notified-(RN to provider direct communication, NOT phone message or time paged.)
   b. If pre-established orders/protocols followed, document on Critical Lab Flow Sheet.

4. If the RLC responsible for the care of the patient is not available, an alternate RLC may take the result and is accountable for communicating this information to the appropriate RLC, after completing read back to assure appropriate information to be passed on.

5. If the RLC cannot reach the Provider within 30 minutes, the house supervisor or department chair should be contacted for timely medical decision-making related to the critical result. This should also be documented in the event reporting system.

III. When additional testing is required to confirm the critical result and/or provide the Provider with complete details, the Provider is called upon completion of all additional testing.

IV. LABORATORY PROCEDURE:

A. Inpatient

1. The Laboratory notifies the RLC

2. Notification is documented and results are entered into the Laboratory Information System (LIS)

B. 24 hour skilled care facility

1. The Laboratory notifies the RLC/Laboratory

2. Notification is documented and results are entered into the LIS

C. Facilities with Open/Close hours

1. Open with a Laboratory
   a. Call the appropriate RLC/Laboratory
   b. Notification is documented and results are entered into the LIS

2. Open without a Laboratory
   a. The Aspirus Wausau Hospital Laboratory notifies the physician, mid-level providers, physician's nurse or medical assistant
   b. Notification is documented and results are entered into the LIS

3. Closed (after office hours)
   a. Critical results are called to the ordering physician or physician on call by looking in Maintenance Inquiry (MIQ) with the request that the answering service page the physician on call or to the physician's home by special request.
   b. If unable to communicate the critical value per policy, verify the physician contact information with the switchboard. After 3 attempts, but not longer than 30 minutes, the technologist/technician/physician/RLC shall notify the Hospital Supervisor to identify the appropriate provider to contact to assure timely intervention for the patient. This communication delay should also be documented in the event reporting system.

V. IMAGING PROCEDURE:

A. Critical imaging results will be determined by the interpreting radiologist and identified as a critical result. These are findings where, based on the test result and patient circumstances, the radiologist interpreting the study determines that there is likely the need for urgent or immediate intervention.

B. Results are communicated as a critical result by the interpreting radiologist directly to the referring/ordering provider by phone urgently (<60 minutes) and are documented as such in the dictation of the study that resides in the EMR (EPIC).

C. For after-hours readings with critical results performed by teleradiology: Confirmation via telephone that results received via fax transmittal for imaging. Preliminary report documents will immediately be entered in PACS for viewing.

D. Discrepancy of reporting between preliminary reports and final interpretation will be communicated to the Provider when a critical result is encountered. This communication and documentation will occur as stated in step B.

VI. ECHO/VASCULAR LABORATORY PROCEDURE:

A. Critical Echo/Vascular Laboratory study results will be determined by the interpreting physician and identified as a critical result. These are findings where, based on the test result and patient circumstances, the physician interpreting the study determines that there is likely the need for urgent or immediate intervention.

1. Technologists who identify suspected anatomical or physiological anomalies during a study contact the physician who will be interpreting the study immediately. Technologist will flag the test in Xcelera by typing "critical" in comments. Documentation will be completed in an EPIC fast note.

2. These technologist findings are either confirmed (Critical Result) or denied (routine) by the interpreting physician and a result is reported following the below process.

B. Results are communicated as a critical result by the interpreting physician directly to the referring/ordering provider by phone (<60 minutes) and are documented as such in the dictation of the study that resides in the EMR (Epic).

Critical Results Criteria for Echo

1. Cardiac Tamponade
2. Aortic Dissection
3. Acute Flail leaflet
4. Acute Ventricular Septal Defect

Critical Results for Vascular

1. Acute arterial occlusion
2. Carotid Dissection
3. High grade carotid stenosis of 90% or higher
4. New ileo and/or femoral DVT

REFERENCES:

CAP Standards, CAP National Patient Safety Goals (NPSG)
The Joint Commission, NPSG

www.medconnetwork.com Critical Test Result Reporting

American College of Radiology, ACR Practice Guideline for Communication of Diagnostic Imaging Findings, 2005.

REVIEWED AND REVISED:
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7/8/2015

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7/8/2015

Aspirus Reference Laboratory Critical Results

It is the policy of Aspirus Reference Laboratory to immediately report critical values to the ordering clinician or the clinician's nurse. The following list of tests and associated are defined as critical.

Chemistry

Test Name	Critical Result
Acetaminophen	Greater than 100 ug/ml
Arterial Blood Gas	
pCO_2	Greater than 70 mm Hg
pH	Less than 7.20 or Greater than 7.55
pO_2	Less than 40 mm Hg
Bilirubin, Total	Greater than 20.0 mg/dl for patients < 1 year old
Calcium	Less than 6.5 mg/dl or Greater than 14.0 mg/dl
Calcium, Ionized	Less than 3.2 mg/dl or Greater than 6.0 mg/dl
Carbamazepine	Greater than 15 ug/ml
Carbon Monoxide	Any sample greater than 20%
Digoxin	Greater than 3.0 ng/ml
Gentamicin	Trough: Greater than 2.5 ug/ml Peak: Greater than 10.0 ug/ml *Only values greater than 10.0 ug/ml need to be called to ARL Clients.
Glucose, CSF	Less than 30 mg/dl
Glucose, Serum	Less than 50 mg/dl or greater than 400 mg/dl *All ED specimens greater than 300 will have acetone performed.
Lithium	Greater than 2.0 mEq/L
Magnesium	Less than 1.0mg/dl or Greater than 9.0mg/dl
Phenobarbital	Greater than 55 ug/ml
Phenytoin (Dilantin)	Greater than 30 ug/ml
Phosphorus	Less than 1.0mg/dl
Potassium	Less than 2.8 mEq/L or Greater than 5.9 mEq/L Less than 3.0 mEq/L for Pre-op Patients
Salicylates	Greater than 40 mg/dl
Sodium	Male: Less than 121 mEq/L or Greater than 155 mEq/L Female 0-50 yrs: Less than 125 mEq/L or Greater than 155 mEq/L Female over 50 yrs: Less than 121 mEq/L or Greater than 155 mEq/L Decrease of Greater than 9 mEq/L within 24 hours
Theophylline	Greater than 25 ug/ml
Tobramycin	Trough: Greater than 2.5 ug/ml
Peak:	Greater than 10 ug/ml *Only values greater than 10.0 ug/ml need to be called to ARL Clients.
Valproic Acid	Greater than 150 ug/ml

Coagulation

Test Name	Critical Results
PTT	Greater than 106 seconds
Fibrinogen Assay	Less than 50 mg/dl
INR	Greater than 5.0 Outpatients and ARL: Greater than 4.5
Thrombin Time	On Therapy: Greater than 150 seconds Surgical Patients or ARL: Greater than 27 seconds
Heparin Associated Antibody	Any positive result

Hematology

Test Name	Critical Results
Hemoglobin	Inpatients: Less than 7.0 g/dl Outpatients and ARL: Less than 7.9 g/dl
Nucleated Cells, CSF	Greater than 10 cells/cmm (in a non-bloody tap)
Platelet Count	Less than 50 K/cmm or Greater than 1,000 K/cmm
WBC, Whole Blood	Inpatients: Less than 1.5 K/cmm Outpatients and ARL: Less than 1.5 K/cmm or Greater than 35 K/cmm
Peripheral Blood Smear	Positive for Malaria, Babesia, or Anaplasma/Ehrlichia.

Urinalysis

Test Name	Critical Results
Ketones	Great than or equal to 2+ for ARL, Pre-op, or OP surgical patients
Reducing Substances	Positive for patients 24 months and younger

Transfusion Services

Test Name	Critical Results
Direct Antiglobulin Test	Positive on newborns
Antibody Screen	Positive for Aspirus Wausau Hospital Pre-op
Antibody Titer	Greater than or equal to 2 fold change from previous for anti-D

Microbiology

Direct Smears:

- CSF with organisms present. **These results must also be called to Dr. Bowler (24/7). If he is not available, it is not necessary to call another physician. Only the normal CV protocol needs to be followed.**
- Fungus smears (KOH, GMS) with possible systemic fungi (Blastomyces, Histoplasma, Coccidioides, or Pneumocystis).
- Wound with possible Clostridia (gram variable sporing rods).

Culture Results:

- Stool cultures with isolates of *Shigella* or *E. coli 0157:H7*
- All CSF cultures with growth.
- Eye cultures with *Pseudomonas aeruginosa.*
- Blood culture with organisms on gram stain, other than gram positive cocci in clusters in a single bottle that is greater than 24 hours old.
- Fungus cultures with possible *Blastomyces, Histoplasma, Coccidioides* or *Cryptoccocus neoformans* (when smears are negative).
- Isolates of MRSA, ESBL, VRSA, VRCoNS, CRE (carbapenem resistant enterobacteriaceae), and VRE from sites of active infection or sterile body fluid (see M406-02).

Other Results:

- CSF positive Cryptococcus antigen.
- Stool with *Clostridium difficile* by PCR.
- Stool with positive Shiga toxin 1 or 2.

Note for Microbiology: If a critical result has been called within 3 days for an organism, an additional positive result for the same apparent organism will not be called as a critical result.