

DEPARTMENT: Patient Safety
POLICY NAME: Critical Results Reporting
ORIGINATOR: Patient Safety Committee
POLICY NUMBER: 009
EFFECTIVE DATE: 04/25

SCOPE

Applies to all patients who have a critical result of a test or diagnostic procedure.

PURPOSE

This policy was established by the Laboratory, EKG, ECHO, Imaging and Respiratory departments in order to create a process for responding to critical test results within an established time frame so that the patient can be properly treated

DEFINITIONS

Critical Results – any resultant test values/levels/interpretations where delays in reporting have the potential for causing serious adverse outcomes in patients.

Advanced Practice Professionals" ("APPs") means Clinical Psychologists, Certified Nurse-Midwives, Certified Nurse Practitioners, Certified Physician Assistants, Certified Register Nurse Anesthetists and any other health care practitioners with expert knowledge and experience in fields of medicine who the Hospital declares eligible for Membership on the Medical Staff and to receive clinical privileges in accordance with the Bylaws and Credentials Policy.

POLICY

- A. The following are the critical results for which these appendices apply, established by the applicable department.
 - a. Laboratory Critical Results (Appendix A)
 - b. Imaging Critical Results (Appendix B)
 - c. Respiratory Blood Gas Critical Results (Appendix C)
 - d. EKG/ECHO Critical Results (Appendix D)
- B. All critical results reported verbally will require verification using two identifiers to identify the patient (name and date of birth) critical result, date and a read-back of information process to verify correct information.

C. All departments reporting critical results shall notify the patient's primary nurse within 15 minutes of the test result. An EKG critical result will be communicated in less than 10 minutes. Communication shall include the following:

1. Identification of the person calling the results
2. Patients' name and date of birth
3. State the critical result being reported and results
4. Request a read-back of the patient information and critical results.

If the primary nurse is not available, the result will be communicated verbally to a team member at the same or higher level of licensure.

D. The nurse or nurse designee will notify the ordering physician/APP verbally within 60 minutes even if a repeat test is requested and include the following:

1. Identify yourself
2. Patients' name and date of birth
3. State the critical result being reported and results
4. Request a read-back of the patient information and critical results

If the ordering physician/APP is not available to respond, the team member will notify the Administrative Nursing Supervisor.

E. If the patient has left or been discharged (Emergency Department (ED), Patient Care Unit, Imaging, etc.) the critical results will be communicated verbally by the team member from the department performing the test or diagnostic procedure to the ordering physician/APP or ordering physician's answering service/designee within 60 minutes of test results.

If the ordering provider was from the ED and the patient was subsequently hospitalized and then discharged, the hospitalist team lead shall be notified of the critical result. The hospitalist provider will determine if action needs to occur based on the reported result. If follow up action needs to occur, the provider will contact the patient to relay the results and to also share their recommendation for the next steps in the patient's care. The call and any attempted calls will be documented in the patient's chart. In cases where the hospitalist team was not involved with the patient's hospitalization (ex. surgical or non-hospitalist outpatient provider cases), the hospitalist team's designated APP (Appendix E) will follow up with the discharging provider or designee to ensure continuity of care for the critical result.

If a provider is not available to be reached, the team member will notify the Administrative Nursing Supervisor (ANS). ANS may escalate provider follow up concerns to the following leaders:

- a. After ensuring that an attempt was made to reach the provider involved, ANS will escalate concerns as appropriate to
 - the Division Chief or Chair
 - Chief of Staff
 - Chief Medical Officer
 - Administrator on Call

- F. If the patient was an outpatient coming in only for this specific test or diagnostic procedure, the department performing the test or diagnostic procedure will notify the ordering physician/APP or ordering physician's answering service/designee within 60 minutes of test results.
- G. Exceptions to physician/APP notification of critical results:
 - 1. When the results are an expected abnormality (ex. high creatinine in level in a patient with renal failure; subsequent positive troponin levels) and/or
 - 2. The physician/APP has noted in writing the parameters with which to call the results (ex. PT/INR or ABG range) and/or
 - 3. Where the result, although abnormal, represents a positive improvement in the patient's condition (for example, positive trending of WBC toward normal limits) and/or
 - 4. Where the result is an unexpected abnormality but does not require urgent medical treatment (ex. elevated Gentamicin level) and/or
 - 5. The result is covered by protocol. Example: Glucommander protocol
 - 6. Point of care testing when the physician/APP is present during the test results and can provide orders so therapeutic measures can be implemented.

Appendix A- Laboratory Critical Test Results

A. Critical laboratory results are defined as follows:

1. CHEMISTRY

ASSAY	LOWER LIMIT	UPPER LIMIT
Acetaminophen		Greater than 50 µg/mL
Alanine Aminotransferase (ALT)		Greater than 1,000 U/L
Aspartate Aminotransferase (AST)		Greater than 1,000 U/L
Amylase		Greater than 355 IU/L
Bilirubin		Birth to <15 days old ≥15 mg/dL 15 days old to Adults ≥10 mg/dL
BUN		Greater than 100 mg/dL
Calcium, Ionized	Less than 2 mg/dL	Greater than 6 mg/dL
Calcium, Total	Less than 7 mg/dL	Greater than 12 mg/dL
Carbamazepine		Greater than 12 mcg/ml
Carbon dioxide	Less than 15 mEq/L	Greater than 40 mEq/L
Creatinine Kinase (CPK)		Greater than 1,000 IU/L
CSF Glucose	Less than 40 mg/dL	
Cyclosporine		Greater than 400 ng/mL
Digoxin		Greater than 2 ng/mL
Dilantin		Greater than 30 µg/mL
Gentamicin (trough)		Greater than 2 µg/mL
Glucose	Newborn: ≤40 mg/dL 4 to 24 hours of age: ≤ 40 mg/dL 25-48 hours of age: ≤45 mg/dL 49 hours of age to adult: ≤ 53 mg/dL	Greater than 400 mg/dL
Iron, Serum (less than 18 years)		Greater than 300 µg/dL
Lactic Acid		Greater than 3.9 mmol/L
Lithium		Greater than 1.5 mEq/L
Magnesium	Less than 1 mg/dL	Greater than 5 mg/dL
pH (venous)	Less than 7.2	Greater than 7.6
Phenobarbital		Greater than 40 µg/mL

Phosphorus	Less than 1 mg/dL	
ASSAY	LOWER LIMIT	UPPER LIMIT
Potassium	Less than 2.5 mEq/L	Greater than 6 mEq/L
Procalcitonin		Greater than 2 ng/mL
Salicylate		Greater than 30 mg/dL
Sodium	Less than 120 mEq/L	Greater than 160 MEq/L
Tacrolimus		Greater than 20 ng/mL
Theophylline		Greater than 20 µg/mL
Tobramycin (trough)		Greater than 2 µg/mL
Troponin		Male: 19.9 pg/mL or greater Female: 14.8 pg/mL or greater
Vancomycin (trough)	Less than 10 mcg/ml	Greater than 25 mcg/mL

2. HEMATOLOGY

ASSAY	LOWER LIMIT	UPPER LIMIT
Fibrinogen	Less than 100 mg/dL	
HGB-Hemoglobin	Less than 7 g/dL	
INR		Greater than or Equal to 4.5
PLT-Platelet Count	Less than 30 K/uL	Greater than 1,000 K/uL
PTT-Partial Thromboplastin Time		Greater than 150 seconds
WBC-White Blood Count	Less than 2 K/uL	Greater than 30 K/uL

3. MICROBIOLOGY

- a. Cultures
 - 1) All positive Blood Culture results, as determined by Gram stain, NANOSPHERE Blood Culture, PNA FISH Candida, and/or culture growth.
 - 2) CSF or corneal scrapings showing any growth, including bacterial or fungal.
 - 3) All initial positive results for MRSA.
- b. Blood Malaria Smear - Any positive result.
- c. Gram Stains - All CSF and corneal scrapings, lower respiratory smears consistent with pneumonia (many WBCs and predominance of one organism type) and male genital specimens showing intracellular gram-negative diplococci.

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- d. India Ink- Any positive India Ink Prep.
 - e. Group B Streptococcus RT-PCR - Any positive results.
 - f. Clostridium difficile RT-PCR- All positive results.
- B. This list is not all-inclusive, and any finding that the Pathologist judges to require urgent, immediate attention may be called at their discretion to the requesting provider/APP.
- C. Notification of the critical lab result will be documented by laboratory staff in EPIC Communication Log.

Appendix B- Imaging Critical Test Results

- A. Critical imaging results are defined as follows:
 - 1. Pneumothorax
 - 2. Acute Pulmonary Embolism
 - 3. Acute Intracranial Hemorrhage
 - 4. Acute Deep Vein Thrombosis
 - 5. Unexplained Pneumoperitoneum
 - 6. Ruptured Aortic Aneurysm
 - 7. Abdominal aortic aneurysm greater than or equal to 5 cm in maximum transverse diameter
 - 8. Acute Epiglottitis
 - 9. Appendicitis
 - 10. Soft tissue gas that could indicate necrotizing infection
 - 11. Iatrogenic Foreign Body
 - 12. Torsion of Ovary or Testicle
 - 13. Acute ischemic brain infarction
- B. If there are follow-up studies for a known critical diagnosis, such as follow up studies for a known pneumothorax, these results will not be called unless it is felt by the Radiologist that there has been a significant, critical change in the finding that would warrant urgent clinical attention.
- C. The above list is not all-inclusive, and any finding that is judged by the Radiologist to require urgent, immediate attention may be called to the referring clinician at their discretion.
- D. Notification of the critical imaging result will be documented by the Radiologist in the EHR tracker who called the report and to whom it was communicated. The Designee, if asked to call results, will document whom the results were communicated to, date and time. The Radiologist will also document the exam to whom the results were called and the date and time.

Appendix C- Respiratory Blood Gas Test Results

- A. Critical blood gas results are defined as follows: 1.

- 1. pH < 7.30
- 2. pH > 7.55
- 3. $Po_2 < 49$ mm Hg on any oxygen concentration
- 4. $COHb > 10\%$
- 5. $MetHb > 10\%$

- B. A critical test is considered to be any STAT order.

- C. Critical blood gas results are called and documented in the Blood Gas "Communication Log" by the Respiratory Therapist.

Appendix D- EKG, ECHO Critical Test Results

- A. Critical EKG results are defined as follows:

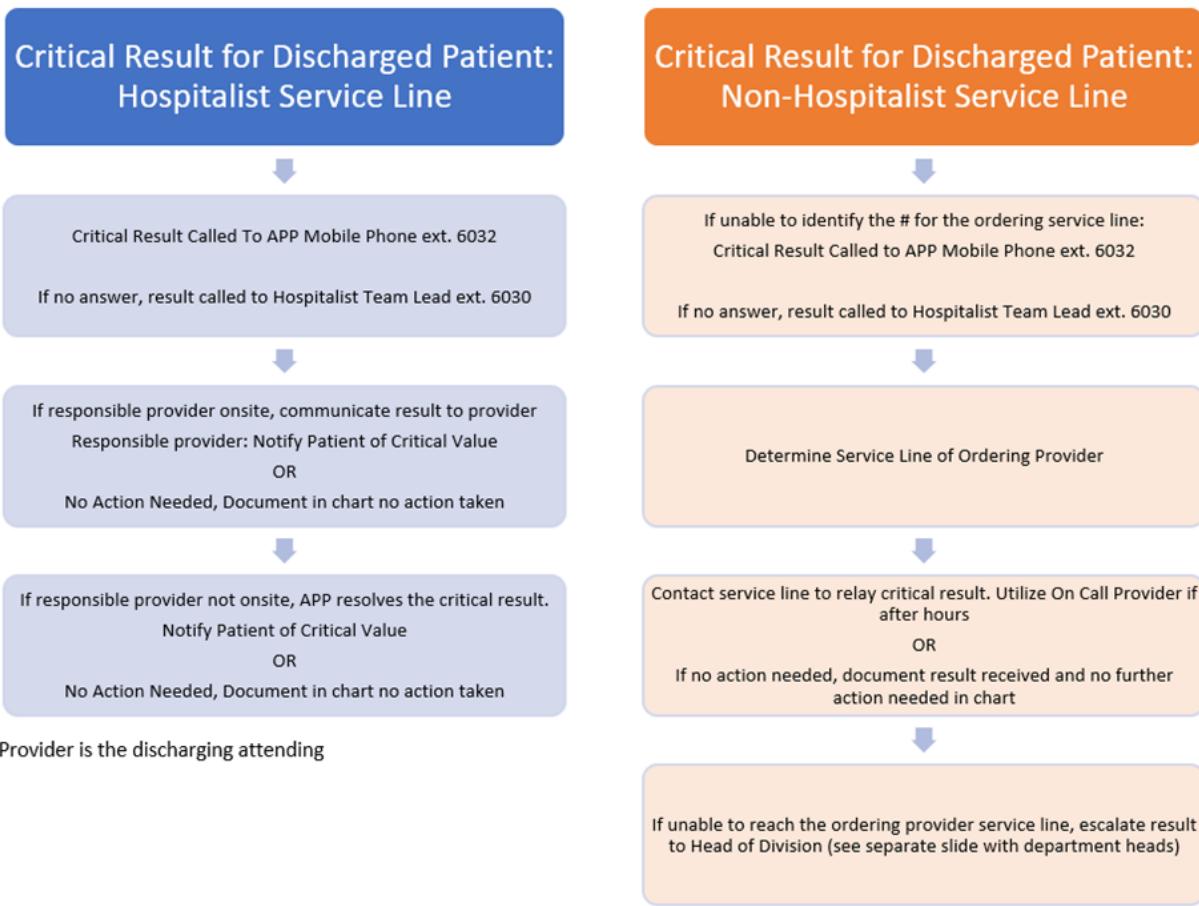
- 1. Heart rate <45 or > 150
- 2. ST elevation
- 3. New Ischemia
- 4. Acute Infarction

- B. Critical ECHO results are defined as follows:

- 1. Moderate or worse pericardial effusion
- 2. Cardiac tamponade
- 3. Severe dilated aortic root
- 4. LVF< 20% in no previous ECHO
- 5. Endocarditis
- 6. Thrombus

- C. Critical EKG/ECHO results are called and document in "Track Results" by the EKG or ECHO technician.

Appendix E Critical Results for Discharged Patients



REFERENCES

- College of American Pathologist (2020). General Checklist, 2020.
- The Joint Commission. (2024). Hospital: 2024 National Patient Safety Goals. Reference available at: [hap-npsg-simple-2024-v2.pdf \(jointcommission.org\)](https://www.jointcommission.org/-/media/assets/standards-and-certification/national-patient-safety-goals/2024-national-patient-safety-goals/hospitals/2024-national-patient-safety-goals-hospitals.ashx)