TITLE: Critical Results Reporting		
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Facility: FMH		
Population (Define): All Employees		
Replaces:		
Approved by: Cardiovascular Services Manager, Radiology Director, Rehab/Respiratory/DME Director, Laboratory Services Director, Operations Senior Director		

TITLE: *Critical Results Reporting*

I. Purpose/ Expected Outcome:

A. The purpose of the Critical Results Reporting policy is to:
   a. Improve patient safety and reduce patient harm.
   b. Promote timely and reliable communication of critical results by the interpreting clinician, and
   c. Identify Critical Results.

II. Definitions:

A. **Critical Results of Tests and Diagnostic Procedures (also called Critical Results, Critical Values or Critical Test Results):** Results beyond the normal variation for which delayed reporting can post a life-threatening situation for the patient. The results may indicate the patient is in imminent danger of death, significant morbidity, or adverse consequences unless treatment is initiated.
   a. Critical Results, whether resulted from routine or STAT orders, may include:
      i. Laboratory tests
      ii. Imaging studies
      iii. Cardiology studies
      iv. Pulmonary studies (i.e. ABGs)
      v. Point-of-care testing (ex: blood glucose)
      vi. Other diagnostics

B. **Critical Tests:** A test or examination that always requires rapid communication of results, whether the results are normal or abnormal.

C. **Responsible Licensed Caregiver:** The person who has the authority to act on the results (Physician, Pharmacist or other Licensed Independent Practitioner).

D. **Improving and Expected Results:**
   a. **Critical but improving results:** Values that are in the critical range but show improvement from the previous value.
   b. **Critical but expected results:** Values that are in the critical range but would be expected with the patient's condition.

E. **Read Back:** Repeating verbatim what the caller has reported.

F. **Clinician:** Medical personnel that is involved in patient care who may perform or collect diagnostic data.

III. Policy:

A. **Critical Results:**

a. Foundation Health identifies lab and diagnostic Critical Results that pose a life-threatening situation for the patient.
b. All those reporting and in receipt of Critical Results participate in the READ BACK of the results to assure accurate information was received.
c. The Responsible Licensed Caregiver receives the Critical Results within 30 minutes of the initial determination that the results are critical.
    i. This time frame includes the time spent by each department in communicating the results.
d. Clinicians who are competencied to perform point-of-care testing are considered agents of diagnostic testing departments.

B. **Reporting Critical Results**
a. When Critical Results become available, the diagnostic testing department uses reasonable efforts to immediately notify one or more of the following individuals of the potentially life threatening results:
    i. The patient's provider or designee
    ii. Pharmacist
    iii. The RN responsible for the care of the patient
    iv. An available RN who may receive the information and will be accountable to act on behalf of the patient
b. For those studies interpreted by a physician, the interpreting physician makes STAT notifications to the patient's provider or designee of the critical results in a timely manner by direct verbal communication.
c. Critical Results are reported to the Responsible Licensed Caregiver as soon as the results are known.
d. The appropriate Chain of Command is initiated when:
    i. Several attempts at notifying the Responsible Licensed Caregiver have been made with no response within 30 minute time frame.
    ii. The Responsible Licensed Caregiver has not yet responded and the patient's clinical condition continues to deteriorate.
e. Where existing orders, policies, or protocols address the Critical Results, the clinician implements the orders, policies, or protocols and reports the Critical Results to the Responsible Licensed Caregiver.
    i. Responsible Licensed Caregiver DOES NOT require notification when initial Critical Results have already been reported and current results are improving, expected, or an order is written that gives specific parameters for requested non-notification.

C. **Quality Improvement**
a. Foundation Health facilities implement data collection activities to determine the timeliness of reporting critical results of tests and diagnostic procedures.
b. Result: Facilities review data and modify lists if the timeliness of reporting is meeting hospital expectations/requirements.

D. **Communicating Critical Results**
a. The department or individual reporting Critical Results performs the following procedure:

Step	Action
1	Validate results that are identified as critical.
2	Communicate validated Critical Results to: • The patient's provider or designee • Pharmacist • The RN responsible for the patients care or other available RN on the unit that may receive and be accountable to act on the results • Leadership team member or resource person on-duty, or clinician that has overall charge of the patient care area.
3	Using the Read Back method report and record the following information in the electronic record:

	• Name of Diagnostic Testing personnel (including credentials and location per facility practice) • Date and time results are reported to Responsible Licensed Caregiver, designee, or clinician • Patient name and medical record number • Diagnostic test and result, value, or finding • Name and credentials of clinician receiving Critical Results
4	Receive and implement further instructions or orders from the Responsible Licensed Caregiver or designee as indicated.

E. **Clinician Receiving Critical Results**
   a. If not the Provider or Pharmacist will take the following actions:

Step	Action
1	"Read Back" and verify Critical Result to the reporting department.
2	Notify the Licensed Responsible Caregiver or designee of critical results as soon as possible for further orders.
3	Report and record the following information in the electronic record: • Name of Diagnostic Testing personnel (including credentials and location per facility practice) • Date and time results are reported to Responsible Licensed Caregiver or designee • Patient name and medical record number • Diagnostic test and result, value, or finding • Name and credentials of clinician receiving Critical Results
4	Receive and implement further instructions or orders from the provider/designee as indicated.

IV. Procedure/ Interventions:

A. N/A

V. Procedural Documentation:

A. Each clinician in the chain of communication reporting the Critical Results documents the following:
   a. Date and time report made to responsible licensed caregiver.
   b. Name and credentials of the person who received the report (example: J. Dow, MD; M. Smith, RN).
   c. The abnormal results that were reported.
   d. The time of receipt of the Critical Result, if different from the time of report.

VI. Additional Information:

A. N/A

VII. References:

A. Hanna, D., Griswold, P., Leape, L., & Bates, D. (2005). Communicating critical test results: Safe practice recommendations. *Joint Commission Journal on Quality and Patient Safety, 31(*2), 68-80. https://doi.org/10.1016/S1553-7250(05)31011-7
B. Lippi G, Mattiuzzi C. (2016). Critical laboratory values communication: Summary recommendations from available guidelines. *Annals of Translational Med*icine, *4*(20), 400. doi: 10.21037/atm.2016.09.36.

C. The Joint Commission. (2023). *2023 Hospital National Patient Safety Goals*. https://www.jointcommission.org/-/media/tjc/documents/standards/national-patient-safety-goals/2023/2023-hap-npsg-goals-102122_simple.pdf

VIII. Other Related Policies/ Procedures:

A. Facility Lab Policies

IX. Keywords and Keyword Phrases:

A. Continuous Cardiac Monitoring
B. Critical Results
C. Critical Tests
D. Diagnostic Studies
E. EEG
F. iStat
G. Laboratory
H. Medical Imaging
I. National Patient Safety Goals
J. Neurology
K. Non-invasive Cardiology
L. Pathology
M. Pulmonary
N. Vascular Lab

X. Appendix:

A. Appendix A: Critical Results by Department
B. Appendix B: Clinical Laboratory Critical Values List

Appendix A: Critical Results by Department

Laboratory

1. The Laboratory works with the Medical Staff at the facility to define a list of tests and values that may present potentially life-threatening laboratory results. See list attached.
2. All test results should be interpreted with the knowledge of the patient's clinical condition.

Medical Imaging

Critical results in the Medical Imaging department include but are not limited to any exam with the following interpretations:

e. Pulmonary Embolism
f. DVT
g. Subdural Hemorrhage
h. Intracranial Hemorrhage
i. Ectopic Pregnancy
j. Pneumothorax

Other critical results are determined based on the patient condition, and are resulted out immediately.

Neurology/EEG

Report the following critical results obtained when electroencephalogram (EEG) is performed:

1. No identifiable cortical activity with sensitivity set at 2 microvolts/mm for 30 minutes, acute or new finding.
2. Seizure activity, acute or new finding.

12-lead EKG, Continuous Cardiac Monitoring

Findings to report on patients after a 12-lead EKG or when continuously monitored include, but may not be limited to, the following:

1. New ST changes
2. Ventricular tachycardia
3. Ventricular fibrillation
4. Asystole
5. Complete (3rd degree) heart block
6. Acute myocardial infarction
7. Acute myocardial injury
8. Symptomatic bradycardia (< 40 bpm – acute new finding)
9. Supraventricular tachycardia (> 150 bpm – acute or new finding)
10. Atrial fibrillation or flutter (new or acute finding)
11. Second degree heart block (second degree, type 2)

Non-Invasive Cardiology

1. The following results from an Echocardiogram constitute a Critical Result:
   a. Symptomatic pericardial effusion/cardiac tamponade
   b. Torn chordae tendonae with significant regurgitation
   c. Severe aortic insufficiency, acute or new finding
   d. Flail mitral valve with severe regurgitation
   e. Ventricular or large atrial septal defect (acute or new finding)
   f. Unusual findings of serious clinical nature (i.e., cardiac masses)
   g. Endocarditis

h. Suspected valvular vegetation/mass
i. Left ventricular aneurysm, acute or new finding
j. Aortic dissection
k. Perforation of the myocardium by pacemaker wire
l. New injection fraction < 40%

2. Any other abnormality that in the cardiologist's opinion is a Critical Test Result (a test result indicating a life threatening condition requiring immediate medical intervention).

Pathology
Surgical frozen section specimens are Critical Tests. The results of this critical test are called to the ordering location regardless of the result.

Pulmonary
The following are considered Critical Results related to a patient's pulmonary status.

1. Arterial blood gases as defined by Laboratory (see Clinical Laboratory Critical Values List)

Vascular Studies
Critical Results for vascular studies include:

Test	Critical Result
Venous Duplex	Deep venous thrombosis, acute or new finding
Arterial Duplex	Absent or markedly dampened Doppler waveforms which may be suggestive of critical ischemia and impending limb loss
Carotid Duplex	• Occlusion at any level of common or internal arteries, acute or new finding • Meets Doppler criteria for severe to critical stenosis (80-99%) • Symptomatic patient with interval progression
Any test	Abnormal velocities in grafts with critical ischemia

Appendix B: Clinical Laboratory Critical Values List

Fairbanks Memorial Hospital Laboratories
1650 Cowles St.
Fairbanks, Alaska 99701

The following tests have definite life threatening values that are considered **"CRITICAL" Values** and **must be called immediately to the responsible caregiver. (See Procedure)**

Test	Less Than	Greater Than	Units	Notes
Acetaminophen	---	150	µg/mL	
Ammonia (0-3 days)	---	108	µmol/L	
(3 days – 150yrs)	---	100	µmol/L	
Anti-Xa	---	0.7	IU/mL	**Call to Pharmacy**
Bilirubin (infant <30 days)	---	18.0	mg/dL	
Calcium	6.0	12.0	mg/dL	**Caregiver unless RX protocol then Pharmacy**
Calcium, ionized	2.64	6.00	mg/dL	
Carbamazepine	---	15	µg/mL	
CO	---	35	%	
CO_2	11	40	mmol/L	**Caregiver unless RX protocol then Pharmacy**
Creatinine (plasma/serum)	---	9.9	mg/dL	
DAT	---	Positive		**Newborns (<72 hours)**
Digoxin	---	2.5	ng/mL	
Dilantin (Phenytoin)	---	30	µg/mL	
ETOH	---	400	mg/dL	
Fetal Fibronectin		Positive		
Fibrinogen	60		mg/dL	
Gentamicin (Random)	---	10	µg/mL	**Call to Pharmacy**
Gentamicin (Post)	0.6	10.5	µg/mL	**Call to Pharmacy**
Gentamicin (Trough)	---	4	µg/mL	**Call to Pharmacy**
Gentamicin (12 hr)	---	4	µg/mL	**Call to Pharmacy**
Glucose (30days-150yrs) **(0-30 days)**	50 40	500 300	mg/dL	
Hemoglobin	6.0	22.0	mg/dL	
Hematocrit (15days-150yrs) **(0- 15 days)**	18.0 18.0	58 65	Vol %	
HIV ½ Rapid	---	Positive		
INR		5.0		
Lithium	---	1.5	mEq/L	
Magnesium	1.2	4.9	mg/dL	
Methemoglobin	---	35	%	
pH Arterial	7.20	7.57	pH units	
Phosphorous	1.5	15	mg/dL	
Platelet count	30	1000	10^3/ µL	
PCO_2	20	70	mmHg	
PO_2	40	200	mmHg	
Potassium **(<1 yr old)**	2.5 2.5	6.0 8.0	mmol/L	**Caregiver unless RX protocol then Pharmacy**
PTT	---	80	seconds	
Salicylate	---	30	mg/dL	
Sodium	120	160	mmol/L	**Caregiver unless RX protocol then Pharmacy**
Theophylline	---	30	µg/mL	
Tobramycin Random	---	10	µg/mL	**Call to Pharmacy**
Tobramycin (Post)	---	10	µg/mL	**Call to Pharmacy**

Tobramycin (trough)	---	4	µg/mL	**Call to Pharmacy**
Tobramycin (12 hr)	---	4	µg/mL	**Call to Pharmacy**
Troponin	---	0.119	ng/mL	
Valproic Acid	---	130	µg/mL	
Vancomycin (Random)	---	35	µg/mL	**Call to Pharmacy**
Vancomycin (Post)	---	70	µg/mL	**Call to Pharmacy**
Vancomycin (trough)	---	30	µg/mL	**Call to Pharmacy**
WBC	2.0	50.0	10^3/ µL	
Newborn Urine Ketone	---	2+		
Shiga-like toxin producing E. coli		Positive		
E. coli O157		Positive		
Clostridium difficile		Positive		
Vibrio cholerae		Positive		
MTB AFB		Positive		
Blood Culture, Sterile Body Fluid, CSF	Positive Gram Stain and Culture			
RPR		**Reactive**		