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Yampa Valley Medical Center

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| **Critical Value Communication YVMC** | |
| **Effective Date:** | **Replaces Policy:** |
|  | **Policy Owner: Manager of Laboratory Services YVMC** |

**Introduction:**

A critical value is defined as a test result that indicates the presence of a life threatening condition which may be corrected by appropriate and timely intervention.

All established critical values, as defined by the Laboratory Medical Director and the Medical Executive Committee (MEC), will be immediately called to the ordering physician or physician on call.

All critical results shall be communicated immediately, or up to 60 minutes if there’s difficulty establishing communication. Any communication difficulty will be documented.

**Scope:**

This policy applies to all UCHealth facilities that are wholly owned or operated by UCHealth Yampa Valley Medical Center (YVMC).

**Policy Details:**

1. **Laboratory/Respiratory Therapy Notification Process:**
   1. All established critical results require direct notification of a member of the patient’s care team (defined as a healthcare professional immediately responsible for the care of the patient, including requesting physician, covering physician, attending physician, physician assistant, charge nurse, nurse or nurse practitioner, in the emergency department the ED tech).
   2. When calling and receiving results the process will include: the two patient identifier verification, date and time and Read Back Verify (RBV)
   3. The technologist will document in Epic, the time, date and the RN, physician, or caregiver who was called with the critical result. In addition, the technologist will document that the critical results were read back to them by adding a comment via the Comm Log.
   4. For outpatients, any critical result will be called to the ordering physician, the physician on call for the practice, or the nurse working with the individual physician for the practice. If the ordering physician is not reachable by phone, the pathologist-on-call will be notified. If the pathologist is not reachable by phone the emergency room physician will be consulted.
2. **Nursing/ED Tech Notification Process** 
   1. When calling and upon reception of results the process will include: the two patient identifier verification, date and time and Read Back Verify (RBV)
   2. The nurse or ED tech will document that the critical results were read back to them.
   3. Protocols: If there is a MEC approved protocol for critical lab results, the provider will be notified according to the applicable protocol.
   4. If serial lab results are stabilizing (two or more results), the nurse may obtain a physician order for parameters of when to notify the physician regarding critical lab results. At any point the critical lab result worsens, the provider must be notified by the nurse or ED tech.
   5. Time frame for notification to the provider for critical labs should be < 15 minutes for Inpatient results, <60 minutes for Outpatient results.
      1. Attempted notification should be documented in the Comm Log.
      2. If unable to notify ordering provider, call the on call Pathologist and follow their directions.
3. **Direct Access Testing (DAT) notification process**
   1. Because DAT testing is patient directed and doesn’t have a provider order, all critical values will be called directly to the patient and the Comm Log documented.
   2. If the lab is having difficulty contacting the patient, the lab will contact the Pathologist on call and follow their instructions.
4. **Reference Lab:**
   1. Any critical result called to YVMC from a reference laboratory must be handled using the same procedure as an in-house critical value.
5. **Critical Values Laboratory**



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| Test (Chemistry) | Age | Low | High |
| Acetaminophen (ug/mL) | <18 years | n/a | >50 |
| Alcohol/Ethanol (mg/dL) | <18 years | n/a | >10 |
| Ammonia (umol/L) | <18 years | n/a | >108 |
| Calcium (mg/dL) | None | <6.1 | >12.9 |
| Carbon Dioxide (CO2) (mmol/L) | None | ≤9 | ≥40 |
| Digoxin (ng/mL) | None | n/a | >2.2 |
| Gentamicin Trough (ug/mL) | None | n/a | >2.0 |
| Gentamicin Peak (ug/mL) | None | n/a | >12.0 |
| Glucose (mg/dL) | 0-18 years | <40 | >300 |
| Glucose (mg/dL) | >18 years | ≤40 | ≥500 |
| Magnesium (mg/dL) | None | <1.0 | >4.7 |
| Phosphorus (mg/dL) | None | <1.3 | >8.0 |
| Potassium (mmol/L) | None | ≤2.5 | ≥6.4 |
| Salicylate (mg/dL) | None | n/a | >30 |
| Sodium (mmol/L) | None | <120 | >160 |
| Total Bilirubin (mg/dL | 0-1 month | n/a | >15.0 |
| Troponin (ng/mL) | None | n/a | >0.30 |



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| --- | --- | --- | --- |
| Test (Hematology) | Age | Low | High |
| White Blood Count (109/L) | None | <1.5 | >70 |
| Hematocrit (%) | 0-4 days | <20 | >75 |
| Hematocrit (%) | 4 days-1 month | <20 | >65 |
| Hematocrit (%) | 1 month and up | <18 | >60 |
| Hemoglobin (g/dL) | 0-4 days | <6.5 | >24 |
| Hemoglobin (g/dL) | 4 days – 1 month | <6.5 | >21 |
| Hemoglobin (g/dL) | 1 month and up | <6.0 | >20 |
| Platelet (109/L) | None | <25 | >1,000 |
| CSF WBC (cells/uL) | 0-1 month | n/a | >30 |
| CSF WBC (cells/uL) | 1 month – 1 year | n/a | >20 |
| CSF WBC (cells/uL) | 1-13 years | n/a | >10 |
| CSF WBC (cells/uL) | >13 years | n/a | >5 |
| CSF Cell Count | None | Any malignant cells or blasts | |
| Blast (%) | None | n/a | >1 |
| Body Fluid cell count | None | Presence of malignant cells or blasts | |
| Peripheral Smear, Parasite | None | n/a | Present |

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| Test (Coagulation) | Age | Low | High |
| INR | 0-18 years | n/a | >4.0 |
| INR | >18 years | n/a | >5.0 |
| aPTT | < 18 years | n/a | >60.0 |
| aPTT | > 18 years | n/a | >124 |
| Fibrinogen | None | <100 | n/a |

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| Test (Transfusion Medicine) | Age | Result |
| Antibody Screen IAS | None | Positive |
| Crossmatch | None | Incompatible |
| Transfusion Reaction Workup | None | Pathologist Interpretation |
| Inventory limitations | None | Notification of all shortages and expectations for resupply |
| ABO/Rh type changes | None | All approved pathology blood type changes besides Rh Negative units to Rh Positive patients. |
| Result Errors | None | Any errors with potential of affecting patient care. |
| Transfusion | None | Any transfusions of unsafe or inappropriate blood products. |
| Fetal Bleed Screen | None | Positive |
| Direct Coombs (DAT) | None | Positive |
| Any test | None | Any significant delays |



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| Test (Microbiology) | Result |
| Blood Culture | Positive |
| CSF Culture | Positive Gram Stain and/or culture |
| Stool Culture | Positive for Salmonella, Shigella, Campylobacter, or E.Coli 0157 |
| Multi-Drug Resistant Organisms (MDROs) | Identification of: MRSA, VRE, CRE, ESBLs, MDR Pseudomonas, MDR Acinetobacter |
| Group A Strep | Positive in any sources other than throats |
| Eye Culture | Positive for Pseudomonas |
| Antibiotic resistance | Any observed resistance to current patient antibiotic therapy by the pathologic bacterial organism. |
| Parasite Screen | Positive for any Parasite |
| C. difficile | Positive |
| ***The following results will be called for Outpatients only during normal business hours (inpatients called 24/7)*** | |
| Giardia or Cryptosporidium | Positive |
| Neisseria gonorrhea | Culture or PCR positive |
| C. trachomatis | PCR Positive |
| MRSA Screen | Positive |
| B. Pertussis | Inpatients – Call PCR Positive to clinical area and to the Infection Prevention on call in Amion. |

1. **Critical Values Respiratory Therapy** 
   1. **EKG critical results:**

### Acute MI

### Complete heart block

### A run of 3 or more beats of ventricular tachycardia

### Sinus bradycardia with Heart rate less than 30

### Sinus tachycardia with heart rate greater than 150

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| Test (Point of Care) | Age | Low | High |
| PCO2 Arterial (mmHg) | None | <20 | >70 |
| PCO2 Venous (mmHg) | None | n/a | >55 |
| pH Arterial | None | <7.2 | >7.6 |
| Ionized Calcium | <18 years | <1.00 | >1.60 |
| pO2 (mmHg) | None | <40 | n/a |
| HCO3 (mmol/L) | None | <12 | >40 |
| Arterial Cord Gas pH | None | <7.1 | n/a |



1. **Radiology Notification Process**

Radiology Critical results are called to the ordering provider or provider on call for the practice by the Radiologist at the time of reading the study when the critical result is found. The Radiologist will then document in the report that the result was called.

**Radiology Critical Values;**

* + - 1. Intracranial hemorrhage
      2. Intracranial mass effect w/herniation
      3. Intracranial/Spine abscess
      4. Pneumothorax
      5. Pulmonary Embolism
      6. Ruptured AAA
      7. Torn thoracic aorta
      8. Ectopic pregnancy,
      9. Placental abruption
      10. Fetal demise
      11. Appendicitis
      12. Ovarian torsion
      13. Testicular torsion
      14. Intestinal perforation.

1. **References**

Joint Commission NPSG.02.03.01